

10/632,407

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IPC reform
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NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
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NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV
NEWS 13 JAN 30 Saved answer limit increased
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added to TULSA

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CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
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<http://download.cas.org/express/v8.0-Discover/>

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FILE 'HOME' ENTERED AT 14:09:32 ON 06 FEB 2006

=> file uspatfull
COST IN U.S. DOLLARS

SINCE FILE TOTAL

10/632,407

	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 14:09:37 ON 06 FEB 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)
HIGHEST GRANTED PATENT NUMBER: US6993790
HIGHEST APPLICATION PUBLICATION NUMBER: US2006026727
CA INDEXING IS CURRENT THROUGH 2 Feb 2006 (20060202/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Feb 2006 (20060202/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s antiperspirant? or deodorant?

3629 ANTIPERSPIRANT?

10445 DEODORANT?

L1 11524 ANTIPERSPIRANT? OR DEODORANT?

=> s l1/clm

1165 ANTIPERSPIRANT?/CLM

1920 DEODORANT?/CLM

L2 2545 (ANTIPERSPIRANT?/CLM OR DEODORANT?/CLM)

=> s microemulsion? or microencapsul?

13308 MICROEMULSION?

17665 MICROENCAPSUL?

L3 27109 MICROEMULSION? OR MICROENCAPSUL?

=> s l3/ti

454 MICROEMULSION?/TI

398 MICROENCAPSUL?/TI

L4 852 (MICROEMULSION?/TI OR MICROENCAPSUL?/TI)

=> s l4 and l2

L5 13 L4 AND L2

=> s wax?

L6 151656 WAX?

=> s cellulo?

L7 272790 CELLULO?

=> s l6 and l7

L8 59018 L6 AND L7

=> s l8 and l5

L9 2 L8 AND L5

=> d 1-2 ibib abs

L9 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2004:313877 USPATFULL

TITLE: Antiperspirant product based on **microemulsion**
gels

INVENTOR(S): Kux, Ulrich, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Cierpisz, Yvonne, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Mahlmann, Kurt, Neu Wulmstorf, GERMANY, FEDERAL
REPUBLIC OF
Menzel, Norbert, Buchholz, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): Diec, Khiet Hien, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Beiersdorf AG (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004247547	A1	20041209
APPLICATION INFO.:	US 2004-820212	A1	20040406 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-EP10951, filed on 30 Sep 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-149373	20011006
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ALSTON & BIRD LLP, BANK OF AMERICA PLAZA, 101 SOUTH TRYON STREET, SUITE 4000, CHARLOTTE, NC, 28280-4000	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1174	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is an antiperspirant product, comprising

(a) an oil-in water microemulsion including an oil phase and a water phase and being substantially free of alcohol, said microemulsion gel further comprising:

one or more oil-in-water emulsifiers selected from the group consisting of polyethoxylated oil-in-water emulsifiers, polypropoxylated oil-in-water emulsifiers and polyethoxylated and polypropoxylated oil-in-water emulsifiers, wherein said microemulsion has a total emulsifier content of less than 20% by weight, based on the total weight of the microemulsion, and

one or more antiperspirants, having a total content of 5 to 40% by weight, based on the total weight of the microemulsion,

wherein said microemulsion is prepared by bringing a mixture comprising the water phase, the oil phase, and the one or more oil-in-water emulsifiers to a temperature within or above the phase-inversion temperature range, and subsequently cooling it to room temperature,

wherein the droplets of the discontinuous oil phase are joined together by one or more crosslinkers, said crosslinkers having at least one hydrophilic region which has an extension which is suitable for bridging the distance between the microemulsion droplets and at least one hydrophobic region which is able to enter into hydrophobic interaction with the microemulsion droplets, and

(b) a pump atomizer, comprising:

a container, and

an atomizer pump comprising a riser tube, a cylindrical chamber which is placed under pressure by depressing a piston, a pump valve which closes the cylindrical chamber and opens under a pressure of at least 0.7 mPa, and two or more turbulence channels radiating to a nozzle opening, said channels causing a flowing liquid to rotate relative to a flow axis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

10/632,407

ACCESSION NUMBER: 2002:185330 USPATFULL
TITLE: Sustained-release **microencapsulated** delivery
system
INVENTOR(S): Kuhrts, Eric H., Bodega, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002098239	A1	20020725
	US 6953593	B2	20051011
APPLICATION INFO.:	US 2000-495556	A1	20000201 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	JAMES W. COLLETT, PH.D., SHELDON & MAK, 225 SOUTH LAKE AVENUE, 9TH FLOOR, PASADENA, CA, 91101		
NUMBER OF CLAIMS:	29		
EXEMPLARY CLAIM:	1		
LINE COUNT:	702		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a process for producing sustained-release powders that is fast, efficient, and economical. The process involves melting an animal or vegetable oil with a melting point above 110 degrees F. in specially designed mixer through either the work energy input of the mixer shaft itself, or a specially fitted plow type mixer equipped with a heating tank, cooling unit, jacket for hot water circulation, and heated lines with nozzles for atomizing the hot oil to be sprayed on. The entire manufacturing process can be completed in about 5-30 minutes, and results in small, sustained-release particles that are free flowing and solid at room temperature. The preferred oil is a hydrogenated soy oil with a melting point range of 145-160 degrees F. which is applied at about a 5% level by weight in a high shear mixer. Also included are sustained-release compositions for therapeutic agents such as drugs, botanicals, biological agents, fungicides, and fertilizers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s perfume?
L10 35666 PERFUME?

=> s l10 and l9
L11 1 L10 AND L9

=> d his

(FILE 'HOME' ENTERED AT 14:09:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 14:09:37 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 2545 S L1/CLM
L3 27109 S MICROEMULSION? OR MICROENCAPSUL?
L4 852 S L3/TI
L5 13 S L4 AND L2
L6 151656 S WAX?
L7 272790 S CELLULO?
L8 59018 S L6 AND L7
L9 2 S L8 AND L5
L10 35666 S PERFUME?
L11 1 S L10 AND L9

=> s l1/ti
445 ANTIPERSPIRANT?/TI
498 DEODORANT?/TI

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L12 850 (ANTIPERSPIRANT?/TI OR DEODORANT?/TI)

=> s l12 and l3

L13 35 L12 AND L3

=> s l7 and l13

L14 17 L7 AND L13

=> s l6 and l14

L15 14 L6 AND L14

=> s l3/clm

1480 MICROEMULSION?/CLM

1331 MICROENCAPSUL?/CLM

L16 2805 (MICROEMULSION?/CLM OR MICROENCAPSUL?/CLM)

=> s l16 and l15

L17 6 L16 AND L15

=> d 1-6 ibib abs

L17 ANSWER 1 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2004:313877 USPATFULL

TITLE: Antiperspirant product based on

microemulsion gels

INVENTOR(S): Kux, Ulrich, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Cierpisch, Yvonne, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Mahlmann, Kurt, Neu Wulmstorf, GERMANY, FEDERAL
REPUBLIC OF
Menzel, Norbert, Buchholz, GERMANY, FEDERAL REPUBLIC OF
Diec, Khiet Hien, Hamburg, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): Beiersdorf AG (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004247547	A1	20041209
APPLICATION INFO.:	US 2004-820212	A1	20040406 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-EP10951, filed on 30 Sep 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-149373	20011006
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ALSTON & BIRD LLP, BANK OF AMERICA PLAZA, 101 SOUTH TRYON STREET, SUITE 4000, CHARLOTTE, NC, 28280-4000	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1174	

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(a) an oil-in water **microemulsion** including an oil phase and a water phase and being substantially free of alcohol, said **microemulsion** gel further comprising:

one or more oil-in-water emulsifiers selected from the group consisting of polyethoxylated oil-in-water emulsifiers, polypropoxylated oil-in-water emulsifiers and polyethoxylated and polypropoxylated oil-in-water emulsifiers, wherein said **microemulsion** has a total emulsifier content of less than 20% by weight, based on the total

weight of the **microemulsion**, and

one or more antiperspirants, having a total content of 5 to 40% by weight, based on the total weight of the **microemulsion**,

wherein said **microemulsion** is prepared by bringing a mixture comprising the water phase, the oil phase, and the one or more oil-in-water emulsifiers to a temperature within or above the phase-inversion temperature range, and subsequently cooling it to room temperature,

wherein the droplets of the discontinuous oil phase are joined together by one or more crosslinkers, said crosslinkers having at least one hydrophilic region which has an extension which is suitable for bridging the distance between the **microemulsion** droplets and at least one hydrophobic region which is able to enter into hydrophobic interaction with the **microemulsion** droplets, and

(b) a pump atomizer, comprising:

a container, and

an atomizer pump comprising a riser tube, a cylindrical chamber which is placed under pressure by depressing a piston, a pump valve which closes the cylindrical chamber and opens under a pressure of at least 0.7 mPa, and two or more turbulence channels radiating to a nozzle opening, said channels causing a flowing liquid to rotate relative to a flow axis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 2 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2003:85782 USPATFULL

TITLE: Use of nano-scale **deodorants**

INVENTOR(S): Ansmann, Achim, Erkrath, GERMANY, FEDERAL REPUBLIC OF
Eggers, Anke, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF
Bruening, Stefan, Duesseldorf, GERMANY, FEDERAL
REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003059385	A1	20030327
APPLICATION INFO.:	US 2002-168222	A1	20020911 (10)
	WO 2000-EP12810		20001215

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1999-19962860	19991224
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	COGNIS CORPORATION, 2500 RENAISSANCE BLVD., SUITE 200, GULPH MILLS, PA, 19406	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
LINE COUNT:	820	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cosmetic or pharmaceutical composition containing a deodorant agent coated with a protective colloid and having a particle diameter of from about 10 to 500 nm.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 3 OF 6 USPATFULL on STN

10/632,407

ACCESSION NUMBER: 2001:97401 USPATFULL
TITLE: **Antiperspirant** product and method
INVENTOR(S): Beck, Jon, Merseyside, United Kingdom
Burry, Jason S, Merseyside, United Kingdom
Coulson, Helen F, Merseyside, United Kingdom
PATENT ASSIGNEE(S): Unilever Home & Personal Care USA, Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6251376	B1	20010626
APPLICATION INFO.:	US 1999-395950		19990914 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1998-19991	19980914
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Dodson, Shelley A.	
LEGAL REPRESENTATIVE:	Boxer, Matthew	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
LINE COUNT:	432	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An antiperspirant product for the human skin, comprising an antiperspirant active for topical application, and an effective amount of a compound which inhibits the acidification mechanism in the eccrine gland to elevate the pH of sweat.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 4 OF 6 USPATFULL on STN

ACCESSION NUMBER: 1999:163198 USPATFULL
TITLE: **Deodorant** and/or **antiperspirant** cosmetic compositions
INVENTOR(S): Genova, Calogero, Vizzolo Predabissi, Italy
Montesion, Filippo, Gropello, Italy
Bozzeda, Edy, Milan, Italy
Deiana, Laura, Segrate, Italy
PATENT ASSIGNEE(S): Condea Augusta S.p.A., Palermo, Italy (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6001341		19991214
APPLICATION INFO.:	US 1997-861084		19970521 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	IT 1996-MI1017	19960521
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Clardy, S. Mark	
ASSISTANT EXAMINER:	Shelborne, Kathryne E.	
LEGAL REPRESENTATIVE:	Oblon, Spivak, McClelland, Maier & Neustadt, P.C.	
NUMBER OF CLAIMS:	34	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	942	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Deodorant and/or antiperspirant cosmetic compositions comprising:

(a) an alkyl ester or a mixture of alkyl esters having general formula (I): ##STR1## (b) one or more carrying agents. The above compositions can be used in body deodorization of the armpits and feet and as body detergents, both for normal and sensitive subjects.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 5 OF 6 USPATFULL on STN

ACCESSION NUMBER: 1999:141281 USPATFULL

TITLE: Translucent antiperspirants/
deodorants

INVENTOR(S): Foerster, Thomas, Erkrath, Germany, Federal Republic of
Claas, Marcus, Hilden, Germany, Federal Republic of
Banowski, Bernhard, Duesseldorf, Germany, Federal
Republic of

PATENT ASSIGNEE(S): Henkel Kommanditgesellschaft auf Aktien, Duesseldorf,
Germany, Federal Republic of (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5980874		19991109
	WO 9706776		19970227
APPLICATION INFO.:	US 1998-11925		19980319 (9)
	WO 1996-EP3520		19960809
			19980319 PCT 371 date
			19980319 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1995-19530220	19950817
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Dodson, Shelley A.	
LEGAL REPRESENTATIVE:	Szoke, Ernest G., Jaeschke, Wayne C., Murphy, Glenn E. J.	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
LINE COUNT:	482	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to translucent antiperspirants based on finely-divided, sprayable **microemulsions**. The invention also relates to **microemulsion** concentrates and a method for the production of antiperspirants from such concentrates. The stable **microemulsions** according to the invention thereby have a droplet diameter of substantially less than 100 nm.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L17 ANSWER 6 OF 6 USPATFULL on STN

ACCESSION NUMBER: 89:9302 USPATFULL

TITLE: Perfume composition with deodorising or
antiperspirant action

INVENTOR(S): Holzner, Gunter, Grand-Lancy, Switzerland

PATENT ASSIGNEE(S): Firmenich S.A., Geneva, Switzerland (non-U.S.
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4803195		19890207
APPLICATION INFO.:	US 1988-157422		19880217 (7)

NUMBER	DATE
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10/632,407

PRIORITY INFORMATION: CH 1987-647 19870220
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lone, Werren B.
LEGAL REPRESENTATIVE: Pennie & Edmonds
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 496

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Personal care composition having deodorant or antiperspirant activity and containing, in addition to an active deodorant or antiperspirant base, a perfuming base, either in the form of an aqueous emulsion, or in **microencapsulated** form. The perfume base is combined with a film-forming substrate and an emulsifying agent.

The said composition has the advantage of releasing the volatile constituents of the perfume at the appropriate moment by the action of a source of moisture, in particular sweat. It also has the advantage that it gives rise to a re-encapsulation in situ, for example on the skin itself, of active constituents in the drying phase. It is suitable in particular for the manufacture of articles for personal care, such as deodorants and antiperspirants in the form of sticks, roll-on devices, smooth-ons or aerosols and pressure vaporizers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s particle?

L18 640223 PARTICLE?

=> d his

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FILE 'USPATFULL' ENTERED AT 14:09:37 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 2545 S L1/CLM
L3 27109 S MICROEMULSION? OR MICROENCAPSUL?
L4 852 S L3/TI
L5 13 S L4 AND L2
L6 151656 S WAX?
L7 272790 S CELLULO?
L8 59018 S L6 AND L7
L9 2 S L8 AND L5
L10 35666 S PERFUME?
L11 1 S L10 AND L9
L12 850 S L1/TI
L13 35 S L12 AND L3
L14 17 S L7 AND L13
L15 14 S L6 AND L14
L16 2805 S L3/CLM
L17 6 S L16 AND L15
L18 640223 S PARTICLE?

=> s l18 and l17

L19 3 L18 AND L17

=> d 1-3 ibib abs

L19 ANSWER 1 OF 3 USPATFULL on STN

10/632,407

ACCESSION NUMBER: 2004:313877 USPATFULL
TITLE: **Antiperspirant** product based on
microemulsion gels
INVENTOR(S): Kux, Ulrich, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Cierpisz, Yvonne, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Mahlmann, Kurt, Neu Wulmstorf, GERMANY, FEDERAL
REPUBLIC OF
Menzel, Norbert, Buchholz, GERMANY, FEDERAL REPUBLIC OF
Diec, Khiet Hien, Hamburg, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Beiersdorf AG (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004247547	A1	20041209
APPLICATION INFO.:	US 2004-820212	A1	20040406 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-EP10951, filed on 30 Sep 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-149373	20011006
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ALSTON & BIRD LLP, BANK OF AMERICA PLAZA, 101 SOUTH TRYON STREET, SUITE 4000, CHARLOTTE, NC, 28280-4000	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1174	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The invention is an antiperspirant product, comprising

(a) an oil-in water **microemulsion** including an oil phase and a water phase and being substantially free of alcohol, said **microemulsion** gel further comprising:

one or more oil-in-water emulsifiers selected from the group consisting of polyethoxylated oil-in-water emulsifiers, polypropoxylated oil-in-water emulsifiers and polyethoxylated and polypropoxylated oil-in-water emulsifiers, wherein said **microemulsion** has a total emulsifier content of less than 20% by weight, based on the total weight of the **microemulsion**, and

one or more antiperspirants, having a total content of 5 to 40% by weight, based on the total weight of the **microemulsion**,

wherein said **microemulsion** is prepared by bringing a mixture comprising the water phase, the oil phase, and the one or more oil-in-water emulsifiers to a temperature within or above the phase-inversion temperature range, and subsequently cooling it to room temperature,

wherein the droplets of the discontinuous oil phase are joined together by one or more crosslinkers, said crosslinkers having at least one hydrophilic region which has an extension which is suitable for bridging the distance between the **microemulsion** droplets and at least one hydrophobic region which is able to enter into hydrophobic interaction with the **microemulsion** droplets, and

(b) a pump atomizer, comprising:

a container, and

10/632,407

an atomizer pump comprising a riser tube, a cylindrical chamber which is placed under pressure by depressing a piston, a pump valve which closes the cylindrical chamber and opens under a pressure of at least 0.7 mPa, and two or more turbulence channels radiating to a nozzle opening, said channels causing a flowing liquid to rotate relative to a flow axis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 2 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2003:85782 USPATFULL

TITLE: Use of nano-scale **deodorants**

INVENTOR(S): Ansmann, Achim, Erkrath, GERMANY, FEDERAL REPUBLIC OF
Eggers, Anke, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF
Bruening, Stefan, Duesseldorf, GERMANY, FEDERAL
REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003059385	A1	20030327
APPLICATION INFO.:	US 2002-168222	A1	20020911 (10)
	WO 2000-EP12810		20001215

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1999-19962860	19991224
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	COGNIS CORPORATION, 2500 RENAISSANCE BLVD., SUITE 200, GULPH MILLS, PA, 19406	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
LINE COUNT:	820	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cosmetic or pharmaceutical composition containing a deodorant agent coated with a protective colloid and having a **particle** diameter of from about 10 to 500 nm.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L19 ANSWER 3 OF 3 USPATFULL on STN

ACCESSION NUMBER: 1999:141281 USPATFULL

TITLE: Translucent **antiperspirants/**
deodorants

INVENTOR(S): Foerster, Thomas, Erkrath, Germany, Federal Republic of
Claas, Marcus, Hilden, Germany, Federal Republic of
Banowski, Bernhard, Duesseldorf, Germany, Federal
Republic of

PATENT ASSIGNEE(S): Henkel Kommanditgesellschaft auf Aktien, Duesseldorf,
Germany, Federal Republic of (non-U.S. corporation)

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	WO 9706776		19970227
APPLICATION INFO.:	US 1998-11925		19980319 (9)
	WO 1996-EP3520		19960809
			19980319 PCT 371 date
			19980319 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1995-19530220	19950817

10/632,407

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Dodson, Shelley A.
LEGAL REPRESENTATIVE: Szoke, Ernest G., Jaeschke, Wayne C., Murphy, Glenn E.
J.
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
LINE COUNT: 482

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s stick? or cream?
205405 STICK?
89800 CREAM?
L20 280932 STICK? OR CREAM?

=> s l20 and l19
L21 2 L20 AND L19

=> d 1-2 ibib abs

L21 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2004:313877 USPATFULL

TITLE: **Antiperspirant product based on microemulsion gels**

INVENTOR(S): Kux, Ulrich, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Cierpisz, Yvonne, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Mahlmann, Kurt, Neu Wulmstorf, GERMANY, FEDERAL
REPUBLIC OF
Menzel, Norbert, Buchholz, GERMANY, FEDERAL REPUBLIC OF
Diec, Khiet Hien, Hamburg, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Beiersdorf AG (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004247547	A1	20041209
APPLICATION INFO.:	US 2004-820212	A1	20040406 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-EP10951, filed on 30 Sep 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-149373	20011006
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ALSTON & BIRD LLP, BANK OF AMERICA PLAZA, 101 SOUTH TRYON STREET, SUITE 4000, CHARLOTTE, NC, 28280-4000	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1174	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is an antiperspirant product, comprising

(a) an oil-in water **microemulsion** including an oil phase and a

water phase and being substantially free of alcohol, said **microemulsion** gel further comprising:

one or more oil-in-water emulsifiers selected from the group consisting of polyethoxylated oil-in-water emulsifiers, polypropoxylated oil-in-water emulsifiers and polyethoxylated and polypropoxylated oil-in-water emulsifiers, wherein said **microemulsion** has a total emulsifier content of less than 20% by weight, based on the total weight of the **microemulsion**, and

one or more antiperspirants, having a total content of 5 to 40% by weight, based on the total weight of the **microemulsion**,

wherein said **microemulsion** is prepared by bringing a mixture comprising the water phase, the oil phase, and the one or more oil-in-water emulsifiers to a temperature within or above the phase-inversion temperature range, and subsequently cooling it to room temperature,

wherein the droplets of the discontinuous oil phase are joined together by one or more crosslinkers, said crosslinkers having at least one hydrophilic region which has an extension which is suitable for bridging the distance between the **microemulsion** droplets and at least one hydrophobic region which is able to enter into hydrophobic interaction with the **microemulsion** droplets, and

(b) a pump atomizer, comprising:

a container, and

an atomizer pump comprising a riser tube, a cylindrical chamber which is placed under pressure by depressing a piston, a pump valve which closes the cylindrical chamber and opens under a pressure of at least 0.7 mPa, and two or more turbulence channels radiating to a nozzle opening, said channels causing a flowing liquid to rotate relative to a flow axis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 2 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2003:85782 USPATFULL

TITLE: Use of nano-scale **deodorants**

INVENTOR(S): Ansmann, Achim, Erkrath, GERMANY, FEDERAL REPUBLIC OF
Eggers, Anke, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF
Bruening, Stefan, Duesseldorf, GERMANY, FEDERAL
REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003059385	A1	20030327
APPLICATION INFO.:	US 2002-168222	A1	20020911 (10)
	WO 2000-EP12810		20001215

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1999-19962860	19991224
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	COGNIS CORPORATION, 2500 RENAISSANCE BLVD., SUITE 200, GULPH MILLS, PA, 19406	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
LINE COUNT:	820	

10/632,407

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cosmetic or pharmaceutical composition containing a deodorant agent coated with a protective colloid and having a **particle** diameter of from about 10 to 500 nm.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 14:09:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 14:09:37 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 2545 S L1/CLM
L3 27109 S MICROEMULSION? OR MICROENCAPSUL?
L4 852 S L3/TI
L5 13 S L4 AND L2
L6 151656 S WAX?
L7 272790 S CELLULO?
L8 59018 S L6 AND L7
L9 2 S L8 AND L5
L10 35666 S PERFUME?
L11 1 S L10 AND L9
L12 850 S L1/TI
L13 35 S L12 AND L3
L14 17 S L7 AND L13
L15 14 S L6 AND L14
L16 2805 S L3/CLM
L17 6 S L16 AND L15
L18 640223 S PARTICLE?
L19 3 S L18 AND L17
L20 280932 S STICK? OR CREAM?
L21 2 S L20 AND L19

=> d l17 ibib abs

L17 ANSWER 1 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2004:313877 USPATFULL

TITLE: **Antiperspirant product based on microemulsion gels**

INVENTOR(S): Kux, Ulrich, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Cierpisz, Yvonne, Hamburg, GERMANY, FEDERAL REPUBLIC OF
Mahlmann, Kurt, Neu Wulmstorf, GERMANY, FEDERAL
REPUBLIC OF
Menzel, Norbert, Buchholz, GERMANY, FEDERAL REPUBLIC OF
Diec, Khiet Hien, Hamburg, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Beiersdorf AG (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004247547	A1	20041209
APPLICATION INFO.:	US 2004-820212	A1	20040406 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2002-EP10951, filed on 30 Sep 2002, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-149373	20011006
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	ALSTON & BIRD LLP, BANK OF AMERICA PLAZA, 101 SOUTH	

TRYON STREET, SUITE 4000, CHARLOTTE, NC, 28280-4000
 NUMBER OF CLAIMS: 25
 EXEMPLARY CLAIM: 1
 LINE COUNT: 1174
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB The invention is an antiperspirant product, comprising

(a) an oil-in water **microemulsion** including an oil phase and a water phase and being substantially free of alcohol, said **microemulsion** gel further comprising:

one or more oil-in-water emulsifiers selected from the group consisting of polyethoxylated oil-in-water emulsifiers, polypropoxylated oil-in-water emulsifiers and polyethoxylated and polypropoxylated oil-in-water emulsifiers, wherein said **microemulsion** has a total emulsifier content of less than 20% by weight, based on the total weight of the **microemulsion**, and

one or more antiperspirants, having a total content of 5 to 40% by weight, based on the total weight of the **microemulsion**,

wherein said **microemulsion** is prepared by bringing a mixture comprising the water phase, the oil phase, and the one or more oil-in-water emulsifiers to a temperature within or above the phase-inversion temperature range, and subsequently cooling it to room temperature,

wherein the droplets of the discontinuous oil phase are joined together by one or more crosslinkers, said crosslinkers having at least one hydrophilic region which has an extension which is suitable for bridging the distance between the **microemulsion** droplets and at least one hydrophobic region which is able to enter into hydrophobic interaction with the **microemulsion** droplets, and

(b) a pump atomizer, comprising:

a container, and

an atomizer pump comprising a riser tube, a cylindrical chamber which is placed under pressure by depressing a piston, a pump valve which closes the cylindrical chamber and opens under a pressure of at least 0.7 mPa, and two or more turbulence channels radiating to a nozzle opening, said channels causing a flowing liquid to rotate relative to a flow axis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 14:09:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 14:09:37 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
 L2 2545 S L1/CLM
 L3 27109 S MICROEMULSION? OR MICROENCAPSUL?
 L4 852 S L3/TI
 L5 13 S L4 AND L2
 L6 151656 S WAX?
 L7 272790 S CELLULO?
 L8 59018 S L6 AND L7
 L9 2 S L8 AND L5
 L10 35666 S PERFUME?

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L11	1 S L10 AND L9
L12	850 S L1/TI
L13	35 S L12 AND L3
L14	17 S L7 AND L13
L15	14 S L6 AND L14
L16	2805 S L3/CLM
L17	6 S L16 AND L15
L18	640223 S PARTICLE?
L19	3 S L18 AND L17
L20	280932 S STICK? OR CREAM?
L21	2 S L20 AND L19

10/632,407

	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 12:37:39 ON 06 FEB 2006
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)
HIGHEST GRANTED PATENT NUMBER: US6993790
HIGHEST APPLICATION PUBLICATION NUMBER: US2006026727
CA INDEXING IS CURRENT THROUGH 2 Feb 2006 (20060202/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Feb 2006 (20060202/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s antiperspirant? or deodorant?

3629 ANTIPERSPIRANT?

10445 DEODORANT?

L1 11524 ANTIPERSPIRANT? OR DEODORANT?

=> s l1/ti

445 ANTIPERSPIRANT?/TI

498 DEODORANT?/TI

L2 850 (ANTIPERSPIRANT?/TI OR DEODORANT?/TI)

=> s capsule?

L3 150125 CAPSULE?

=> s l2 and l3

L4 25 L2 AND L3

=> s microemulsion? or emulsion?

13308 MICROEMULSION?

222141 EMULSION?

L5 224677 MICROEMULSION? OR EMULSION?

=> s l4 and l5

L6 10 L4 AND L5

=> s cellulosic?

L7 44070 CELLULOSIC?

=> s l6 and l7

L8 0 L6 AND L7

=> s gel?

L9 469837 GEL?

=> s l9 and l6

L10 5 L9 AND L6

=> s clear?

L11 1442065 CLEAR?

=> s l11 and l10

L12 2 L11 AND L10

=> d 1-2 ibib abs

L12 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 2003:276362 USPATFULL

10/632,407

TITLE: **Antiperspirant** compositions containing
film-forming polymers
INVENTOR(S): Murphy, C. Shawn, Cincinnati, OH, UNITED STATES
Boyle, Kristin Ann, Corona del Mar, CA, UNITED STATES
Abrutyn, Eric S., Anderson, OH, UNITED STATES
PATENT ASSIGNEE(S): The Andrew Jergens Company (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003194387	A1	20031016
	US 6759032	B2	20040706
APPLICATION INFO.:	US 2002-120624	A1	20020411 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	FROST BROWN TODD LLC, 2200 PNC Center, 201 E. Fifth Street, Cincinnati, OH, 45202-4182		
NUMBER OF CLAIMS:	19		
EXEMPLARY CLAIM:	1		
LINE COUNT:	807		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Antiperspirant compositions for topical application are disclosed. These compositions show improved antiperspirant efficacy, while providing minimized skin residue as well as good skin feel when applied. These antiperspirant compositions comprise an effective amount of an antiperspirant active, from about 10% to about 60% of a topical carrier, and from about 0.5% to about 10% of a non-toxic, water-insoluble, occlusive film-forming polyester polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 2 OF 2 USPATFULL on STN

ACCESSION NUMBER: 93:1205 USPATFULL
TITLE: **Antiperspirant/deodorant** containing
microcapsules
INVENTOR(S): Goldberg, Marvin, Marlboro, NJ, United States
Kellner, David M., Hollis, NY, United States
PATENT ASSIGNEE(S): Revlon Consumer Products Corporation, New York, NY,
United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5176903		19930105
APPLICATION INFO.:	US 1990-627143		19901213 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ore, Dale R.		
LEGAL REPRESENTATIVE:	Blackburn, Julie		
NUMBER OF CLAIMS:	15		
EXEMPLARY CLAIM:	1		
LINE COUNT:	442		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An antiperspirant/deodorant composition containing a cosmetically effective amount of microcapsules which encapsulate a composition comprised of fragrance and an ester.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s us5176903/pn

L13 1 US5176903/PN

=> d his

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(FILE 'HOME' ENTERED AT 12:37:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 12:37:39 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 850 S L1/TI
L3 150125 S CAPSULE?
L4 25 S L2 AND L3
L5 224677 S MICROEMULSION? OR EMULSION?
L6 10 S L4 AND L5
L7 44070 S CELLULOSIC?
L8 0 S L6 AND L7
L9 469837 S GEL?
L10 5 S L9 AND L6
L11 1442065 S CLEAR?
L12 2 S L11 AND L10
L13 1 S US5176903/PN

=> s l12 and l13

L14 1 L12 AND L13

=> d kwic

L14 ANSWER 1 OF 1 USPATFULL on STN

TI **Antiperspirant/deodorant** containing microcapsules

PI US 5176903 19930105 <--

SUMM The encapsulation of fragrances is well known in the art. Fragrance capsules are often found in scratch and sniff inserts in magazines, in perfumes, deodorants, and a host of other applications. In. . .

DETD . . . aerosol, a pump spray, a roll-on, cream, lotion, or powder. In addition the composition of the invention may be a **clear** antiperspirant/deodorant in the solid stick, aerosol, roll-on, cream, lotion, etc. A conventional solid stick generally comprises a wax base into. . . The vehicle comprises powder constituents such as talc, kaolin, and other similar powder constituents. Other antiperspirant types include pads and **gels**.

DETD Microcapsules may also be made by the spray drying process. In spray drying, first an **emulsion** of the liquid core material and an aqueous solution of the coating material phase is made. The **emulsion** is then broken up into droplets of the desired size by spraying the **emulsion** from a nozzle or other similar apparatus. The moisture is removed from the droplets in a dry atmosphere such as. . .

DETD . . . such as flow agents, system stabilizers and so forth. The microcapsule containing the fragrance/ester is made by spray drying the **emulsion** and drying the droplets in drying oven. The resulting microcapsules are suitable for use with the antiperspirant/deodorant of the invention.

=> s wax?

L15 151656 WAX?

=> s l14 and l15

L16 1 L14 AND L15

=> d kwic

L16 ANSWER 1 OF 1 USPATFULL on STN

TI **Antiperspirant/deodorant** containing microcapsules

PI US 5176903 19930105 <--

- SUMM The encapsulation of fragrances is well known in the art. Fragrance **capsules** are often found in scratch and sniff inserts in magazines, in perfumes, deodorants, and a host of other applications. In. . .
- DETD . . . aerosol, a pump spray, a roll-on, cream, lotion, or powder. In addition the composition of the invention may be a **clear** antiperspirant/deodorant in the solid stick, aerosol, roll-on, cream, lotion, etc. A conventional solid stick generally comprises a **wax** base into which the antiperspirant salts are incorporated. A suitable **wax** base generally comprises one or more **waxes**, and if desired a number of nonessential constituents such as suspending agents, whitening agents, payoff enhancers, absorbants, wetting agents, and. . . be added to enhance cosmetic effects. In antiperspirant creams the vehicle is a cream. Generally creams contain oils and light **waxes** to provide the cream effect. It may also be desired to add nonessential but desirable constituents such as suspending agents,. . . The vehicle comprises powder constituents such as talc, kaolin, and other similar powder constituents. Other antiperspirant types include pads and **gels**.
- DETD Microcapsules may also be made by the spray drying process. In spray drying, first an **emulsion** of the liquid core material and an aqueous solution of the coating material phase is made. The **emulsion** is then broken up into droplets of the desired size by spraying the **emulsion** from a nozzle or other similar apparatus. The moisture is removed from the droplets in a dry atmosphere such as. . .
- DETD . . . such as flow agents, system stabilizers and so forth. The microcapsule containing the fragrance/ester is made by spray drying the **emulsion** and drying the droplets in drying oven. The resulting microcapsules are suitable for use with the antiperspirant/deodorant of the invention.
- DETD One of the preferred embodiments is a solid stick antiperspirant comprising 0.05-5.0% microcapsules, 12-30% **waxes**, 10-70% silicone and 10-30% antiperspirant salts. The formulation may optionally contain one or more of a suspending agent, a whitening. . .
- DETD A wide variety of **waxes** may be used, their function to form a base or stick structure. Many sticks have a main **wax** component which is the basic stick former and one or more subordinate **waxes** which assist in maintaining stick structure. The alcohol **waxes** which are solids such as stearyl alcohol, myristal alcohol, cetyl alcohol, or tridecyl alcohols, serve as excellent main **wax** components. Other **waxes** and/or other ingredients such as beeswax, carnauba, ceresin, microcrystalline, lanolin, paraffin, ozokerite, lanolin alcohol, hydrogenated lanolin, candelilla, cocoa butter, petrolatum, shellac **wax**, hydrogenated castor oil, spermaceti, bran **wax**, capok **wax**, or bayberry **wax**, may be used as subordinate **waxes**.
- DETD 12-30% stearyl alcohol (main **wax** component)
- DETD 0.5-4% hydrogenated castor oil (subordinate **wax**)
- CLM What is claimed is:
- . . . straight or branched chain hydrocarbon radical having 1-22 carbon atoms; x is 0-5 y is 0-10 1- 30% of a **wax** selected from the group consisting of stearyl alcohol, myristal alcohol, cetyl alcohol, tridecyl alcohol, beeswax, carnauba, ceresin, microcrystalline, lanolin, paraffin, ozokerite, lanolin alcohol, hydrogenated lanolin, candelilla, cocoa butter, petrolatum, shellac **wax**, hydrogenated castor oil, spermaceti, bran **wax**, capok **wax**, bayberry **wax**, or mixtures thereof, 10-80% silicone, and 10-30% of an antiperspirant salt selected from the group consisting of aluminum bromohydrate, aluminum. . .

10/632,407

=> s structurant?

L17 867 STRUCTURANT?

=> s l17 and l16

L18 0 L17 AND L16

=> s d his

1826363 D

367858 HIS

L19 839 D HIS

(D(W)HIS)

=> d his

(FILE 'HOME' ENTERED AT 12:37:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 12:37:39 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?

L2 850 S L1/TI

L3 150125 S CAPSULE?

L4 25 S L2 AND L3

L5 224677 S MICROEMULSION? OR EMULSION?

L6 10 S L4 AND L5

L7 44070 S CELLULOSIC?

L8 0 S L6 AND L7

L9 469837 S GEL?

L10 5 S L9 AND L6

L11 1442065 S CLEAR?

L12 2 S L11 AND L10

L13 1 S US5176903/PN

L14 1 S L12 AND L13

L15 151656 S WAX?

L16 1 S L14 AND L15

L17 867 S STRUCTURANT?

L18 0 S L17 AND L16

L19 839 S D HIS

=> s microcapsul?

L20 24246 MICROCAPSUL?

=> s l20 and l2

L21 17 L20 AND L2

=> s microcapsul? or capsule?

24246 MICROCAPSUL?

150125 CAPSULE?

L22 161526 MICROCAPSUL? OR CAPSULE?

=> s l22 and l2

L23 33 L22 AND L2

=> s l23 and l7

L24 1 L23 AND L7

=> d 1 ibib abs

L24 ANSWER 1 OF 1 USPATFULL on STN

ACCESSION NUMBER: 2002:220973 USPATFULL

TITLE: Antiperspirant products

INVENTOR(S): Rieley, Hugh, Bebington, UNITED KINGDOM

Smith, Ian Karl, Bebington, UNITED KINGDOM

PATENT ASSIGNEE(S): Unilever Home & Personal Care USA, Division of Conopco,

10/632,407

Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002119108	A1	20020829
	US 6616921	B2	20030909
APPLICATION INFO.:	US 2001-25243	A1	20011219 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 2000-31264	20001221
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ, 07020	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1	
LINE COUNT:	791	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Antiperspirant products and methods for achieving antiperspirancy utilising compositions comprising an antiperspirant salt and a water soluble polymer, characterised in that:

(i) the polymer comprises Brnsted acid groups and acts as a co-gellant for the antiperspirant salt when mixed therewith in the presence of water; and

(ii) the polymer is physically separate from antiperspirant salt prior to application.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s clear?

L25 1442065 CLEAR?

=> s wax?

L26 151656 WAX?

=> d his

(FILE 'HOME' ENTERED AT 12:37:32 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 12:37:39 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 850 S L1/TI
L3 150125 S CAPSULE?
L4 25 S L2 AND L3
L5 224677 S MICROEMULSION? OR EMULSION?
L6 10 S L4 AND L5
L7 44070 S CELLULOSIC?
L8 0 S L6 AND L7
L9 469837 S GEL?
L10 5 S L9 AND L6
L11 1442065 S CLEAR?
L12 2 S L11 AND L10
L13 1 S US5176903/PN
L14 1 S L12 AND L13
L15 151656 S WAX?
L16 1 S L14 AND L15
L17 867 S STRUCTURANT?
L18 0 S L17 AND L16

10/632,407

L19 839 S D HIS
L20 24246 S MICROCAPSUL?
L21 17 S L20 AND L2
L22 161526 S MICROCAPSUL? OR CAPSULE?
L23 33 S L22 AND L2
L24 1 S L23 AND L7
L25 1442065 S CLEAR?
L26 151656 S WAX?

=> s l24 and l25

L27 0 L24 AND L25

=> s hardness?

L28 148590 HARDNESS?

=> s l24 and l28

L29 0 L24 AND L28

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NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPLUS with the
IPC reform
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
USPAT2
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
INPADOC
NEWS 11 JAN 17 Pre-1988 INPI data added to MARPAT
NEWS 12 JAN 17 IPC 8 in the WPI family of databases including WPIFV
NEWS 13 JAN 30 Saved answer limit increased
NEWS 14 JAN 31 Monthly current-awareness alert (SDI) frequency
added to TULSA

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
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V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
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=> file uspatfull

COST IN U.S. DOLLARS

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TOTAL

10/632,407

	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 12:51:28 ON 06 FEB 2006
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)
HIGHEST GRANTED PATENT NUMBER: US6993790
HIGHEST APPLICATION PUBLICATION NUMBER: US2006026727
CA INDEXING IS CURRENT THROUGH 2 Feb 2006 (20060202/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Feb 2006 (20060202/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s microemulsion? or emulsion? or encapsul?

13308 MICROEMULSION?
222141 EMULSION?
174092 ENCAPSUL?

L1 359814 MICROEMULSION? OR EMULSION? OR ENCAPSUL?

=> s oil-in-water?

581756 OIL
1305183 WATER?

L2 56901 OIL-IN-WATER?
(OIL(1W)WATER?)

=> s antiperspirant? or deodorant?

3629 ANTIPERSPIRANT?
10445 DEODORANT?

L3 11524 ANTIPERSPIRANT? OR DEODORANT?

=> s l3/ti

445 ANTIPERSPIRANT?/TI
498 DEODORANT?/TI

L4 850 (ANTIPERSPIRANT?/TI OR DEODORANT?/TI)

=> s l4 and l2

L5 120 L4 AND L2

=> s l5 and l1

L6 110 L5 AND L1

=> s gel?

L7 469837 GEL?

=> s l6 and l7

L8 96 L6 AND L7

=> s cellulosic?

L9 44070 CELLULOSIC?

=> s l8 and l9

L10 8 L8 AND L9

=> s wax?

L11 151656 WAX?

=> s l10 and l11

L12 8 L10 AND L11

10/632,407

=> s hardness?

L13 148590 HARDNESS?

=> s l12 and l13

L14 5 L12 AND L13

=> d 1-5 ibib abs

L14 ANSWER 1 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2004:306455 USPATFULL

TITLE: Suspension free and elastomer free
antiperspirant cream

INVENTOR(S): Popoff, Christine, Morganville, NJ, UNITED STATES
Holerca, Marian, Somerset, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004241123	A1	20041202
APPLICATION INFO.:	US 2003-449289	A1	20030530 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Colgate-Palmolive Company, 909 River Road, P.O. Box 1343, Piscataway, NJ, 08855-1343		
NUMBER OF CLAIMS:	17		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1217		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is a suspension free and elastomer-free composition comprising: (a) 0.1-30 weight % of an antiperspirant active having a low metal to chloride ratio in the range of 0.9 to 1.5:1; (b) 7-28.4 weight % of one or more volatile silicones having a flash point of 100 degrees C. or less; (c) 0.6-2.0 weight % of a silicone surfactant having an HLB values \leq 8; (d) 30-70 weight % water; (e) 0-3 weight % of a water soluble glycol or polyglycol; (f) 1-5% silicone emollient; and (g) 0-3 weight % of a non-siliconized organic fragrance solubilizer; wherein the composition is optically a white suspension-free cream and has a viscosity greater than 150,000 centipoise and a ratio of oil phase to water phase in the range of 10:90 to 30:70.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 2 OF 5 USPATFULL on STN

ACCESSION NUMBER: 97:47083 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Radd, Billie L., Naperville, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5635166		19970603
APPLICATION INFO.:	US 1996-635674		19960422 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1995-373111, filed on 17 Jan 1995, now patented, Pat. No. US 5534245 which is a continuation-in-part of Ser. No. US 1994-199492, filed on 22 Feb 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		

10/632,407

PRIMARY EXAMINER: Ivy, C. Warren
ASSISTANT EXAMINER: Huang, Evelyn
LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
LINE COUNT: 1055

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Roll-on or **gel** antiperspirant compositions comprising an antiperspirant compound, a hydrophilic polymer, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 3 OF 5 USPATFULL on STN

ACCESSION NUMBER: 97:44744 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Panitch, Maximo M., Skokie, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
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PATENT INFORMATION:	US 5632974		19970527
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APPLICATION INFO.:	US 1996-658320		19960606 (8)
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RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-355636, filed on 14 Dec 1994, now patented, Pat. No. US 5549887 which is a continuation-in-part of Ser. No. US 1994-199763, filed on 22 Feb 1994, now abandoned		
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DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Ivy, C. Warren

ASSISTANT EXAMINER: Huang, Evelyn

LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun

NUMBER OF CLAIMS: 29

EXEMPLARY CLAIM: 1

LINE COUNT: 1659

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Gelled** or solid antiperspirant compositions comprising an antiperspirant compound, a borate crosslinker, a hydrophilic polymeric binder, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 4 OF 5 USPATFULL on STN

ACCESSION NUMBER: 96:77547 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Panitch, Maximo M., Skokie, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
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PATENT INFORMATION:	US 5549887		19960827
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APPLICATION INFO.:	US 1994-355636		19941214 (8)
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10/632,407

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-199763, filed
on 22 Feb 1994
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ivy, C. Warren
ASSISTANT EXAMINER: Huang, Evelyn
LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun
NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
LINE COUNT: 1667
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Gelled or solid antiperspirant compositions comprising an
antiperspirant compound, a borate crosslinker, a hydrophilic polymeric
binder, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L14 ANSWER 5 OF 5 USPATFULL on STN

ACCESSION NUMBER: 96:60434 USPATFULL
TITLE: **Antiperspirant deodorant**
compositions
INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United
States
Radd, Billie L., Naperville, IL, United States
Jadav, Anjana K., Chicago, IL, United States
PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S.
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5534245		19960709
APPLICATION INFO.:	US 1995-373111		19950117 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-199492, filed on 22 Feb 1994		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	27		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1045		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	Roll-on or gel antiperspirant compositions comprising an antiperspirant compound, a hydrophilic polymer, a carrier, and, optionally, a softening agent, are disclosed.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s clear?

L15 1442065 CLEAR?

=> s l14 and l15

L16 5 L14 AND L15

=> s us5534245/pn

L17 1 US5534245/PN

=> s cream? or soft solid? or stick?

89800 CREAM?

350688 SOFT

10/632,407

1252731 SOLID?
1412 SOFT SOLID?
(SOFT(W) SOLID?)

205405 STICK?
L18 281680 CREAM? OR SOFT SOLID? OR STICK?

=> s l18 and l17

L19 1 L18 AND L17

=> d his

(FILE 'HOME' ENTERED AT 12:51:00 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 12:51:28 ON 06 FEB 2006

L1 359814 S MICROEMULSION? OR EMULSION? OR ENCAPSUL?
L2 56901 S OIL-IN-WATER?
L3 11524 S ANTIPERSPIRANT? OR DEODORANT?
L4 850 S L3/TI
L5 120 S L4 AND L2
L6 110 S L5 AND L1
L7 469837 S GEL?
L8 96 S L6 AND L7
L9 44070 S CELLULOSIC?
L10 8 S L8 AND L9
L11 151656 S WAX?
L12 8 S L10 AND L11
L13 148590 S HARDNESS?
L14 5 S L12 AND L13
L15 1442065 S CLEAR?
L16 5 S L14 AND L15
L17 1 S US5534245/PN
L18 281680 S CREAM? OR SOFT SOLID? OR STICK?
L19 1 S L18 AND L17

=> s l19 and l16

L20 1 L19 AND L16

=> d kwic

L20 ANSWER 1 OF 1 USPATFULL on STN

TI Antiperspirant deodorant compositions

PI US 5534245 19960709

AB Roll-on or **gel** antiperspirant compositions comprising an antiperspirant compound, a hydrophilic polymer, a carrier, and, optionally, a softening agent, are disclosed.

SUMM Antiperspirant compositions are available in a variety of forms, such as aerosol suspensions; pump sprays; roll-on powders; **emulsions** or suspensions; and solid **gels**, **waxes** or suspensions. Antiperspirant compositions traditionally have been prepared as either **oil-in-water emulsions** or water-in-oil **emulsions**. Therefore, antiperspirant compositions of any form typically have a milky or opaque appearance and are manufactured by complex methods. Antiperspirant compositions prepared as **emulsions** often feel wet or oily when applied to the skin, and often remain tacky after the carrier of the composition evaporates. In addition, many **emulsion**-type antiperspirant compositions leave a white, staining residue on contacted skin or clothing.

SUMM Roll-on and **gelled emulsion**-type antiperspirant compositions are used by rubbing an area of the body, such as the underarm, to apply a layer of the composition to the skin, and thereby reduce odor and/or perspiration. Roll-on and **gel**

antiperspirant compositions preferably possess the esthetic properties of smoothness, nonoiliness and nontackiness. **Gelled** antiperspirant compositions also require a sufficient firmness to maintain its shape. Clarity, or transparency, of antiperspirant compositions also is a . . .

SUMM . . . viscosity to adhere to the skin, resists dripping off or running down the skin, and yet is not tacky or **sticky**. A **gel** antiperspirant composition is difficult to formulate and manufacture because the composition requires sufficient firmness to withstand rubbing across the skin. . . the antiperspirant compound to the skin. Additional formulation parameters include viscosity control, lack of syneresis and nontackiness. Transparent, roll-on or **gel** antiperspirant compositions are more difficult to formulate because of the added requirement of transparency.

SUMM A transparent roll-on or **gel** antiperspirant composition which has esthetic and functional properties equal to or better than presently-available antiperspirant compositions is highly desired by consumers. However, providing a commercially-acceptable, transparent roll-on or **gel** antiperspirant composition requires overcoming several formulation and manufacturing problems.

SUMM Transparent antiperspirant compositions, especially in the roll-on or **gel** form, are particularly favored by consumers because such transparent products are esthetically-appealing and project the appearance of product purity, safety, . . .

SUMM Solid antiperspirant compositions are divided into three main classes, i.e., compressed powder **sticks**, **gel sticks** and **wax sticks**. Each of these classes has advantages, but each class also has particular disadvantages. Compressed powder **sticks** for example are frequently brittle and hard, and leave a cosmetically-unacceptable powdery residue after application. Frequently, **wax**-based products are cosmetically unacceptable because of such factors as **hardness**, greasiness and tackiness. The opacity of **wax sticks** and the visually-observable white residue remaining after application also are esthetically undesirable.

SUMM **Gel**-type solid antiperspirant compositions have several advantages over both compressed powder **sticks** and **wax sticks**. For example, the **gel** antiperspirant compositions leave less residue or dust on the skin. The **gel** antiperspirant compositions also glide easily over the skin surface resulting in an easy and comfortable application of the composition.

SUMM However, the preparation of antiperspirant compositions in the form of an effective and stable **gel** is difficult. For example, a critical ingredient in **gel** antiperspirant compositions is the **gelling** agent. Many prior **gel** antiperspirant compositions comprise **gelled** hydroalcoholic solutions including a **gelling** agent, such as sodium stearate, to form the **gel**. However, common **gelling** agents cannot be used in the presence of acidic antiperspirant compounds because of an interaction between the **gelling** agent, which is alkaline, and the antiperspirant compound.

SUMM Prior transparent, **gel** antiperspirant compositions also typically were divided into three main classes. One of these classes is the optically-clear **gelled emulsion** compositions. These compositions include a water phase and an oil phase. The oil phase is suspended in the water phase by using a sufficient amount of an appropriate emulsifier or emulsifiers. The **emulsions** conventionally contained **waxes**, silicones, clays and emollients. The optically-clear **gelled emulsion** compositions are illustrated in U.S. Pat. Nos. 4,673,570, 4,268,499, 4,278,655, and 4,350,605; EP 0 450 597; and in "Deodorant and. . .

- SUMM The optically-clear gelled emulsion compositions often exhibit the disadvantages of composition instability during storage; the development of a hazy or milky appearance during storage; a stringy, tacky, oily consistency and other undesirable esthetics. In addition, the emulsion gel compositions often leave a visible residue, in the form of a white layer, on the skin or clothing. Another disadvantage of optically-clear gelled emulsion compositions is the complex method of preparing an optically-clear gelled emulsion composition. The method traditionally requires high shear rates during mixing, high processing temperatures, and a series of cooling and heating process steps. In one embodiment of the present invention, optically-clear gelled emulsion compositions are prepared by a simple method to provide antiperspirant compositions that overcome the above-described disadvantages of optically-clear gelled emulsion compositions.
- SUMM A second class of transparent gel antiperspirant compositions is antiperspirant compositions thickened with 1,3:2,4-dibenzylidene-sorbitol (DBS) or DBS derivatives. Such transparent antiperspirant compositions are disclosed in U.S. . . .
- SUMM Transparent, gelled antiperspirant compositions thickened with DBS or DBS-type compounds have a major disadvantage in that the compositions are unstable in the. . . .
- SUMM The third class of transparent gel antiperspirant compositions is the acid-base complex gels. These transparent antiperspirant compositions are prepared by interacting the active antiperspirant compound with a carboxylic acid salt. Transparent acid-based complex gels are disclosed, for example, in U.S. Pat. Nos. 3,255,082 and 2,876,163; and in European Publication No. 0 448 278. U.S. Pat. Nos. 2,607,658 and 2,645,616 disclose similar gels comprising an aluminum chlorhydroxy complex and a borate. . . . by the salt, thereby reducing the efficacy of the antiperspirant compound and, accordingly, the antiperspirant composition. In addition, the resulting gels are very brittle, tacky, and/or possess other undesirable esthetic properties, such as in the compositions disclosed in U.S. Pat. No. 3,255,082, which are emulsions or sols and therefore are often opaque.
- SUMM The problems associated with gel antiperspirants can be partially overcome by formulating a roll-on antiperspirant. Roll-on antiperspirants typically are viscous liquids to semisolids. However, roll-on. . . .
- SUMM Although numerous patents disclose transparent gel antiperspirant compositions, the gel compositions designated as clear or transparent do not have the clarity desired by consumers. Some transparent antiperspirant compositions also exhibit syneresis, or phase separation,. . . .
- SUMM Investigators have continually sought to provide roll-on or gel antiperspirant compositions having both long-term stability and sufficient esthetic and functional properties for consumer acceptance. These esthetic and functional properties. . . skin and clothing, and the ability to effectively deliver the antiperspirant compound to the skin without providing a tacky or sticky feeling. The present invention is directed to providing roll-on or gel antiperspirant compositions, and preferably transparent compositions, exhibiting these consumer-acceptable esthetic and functional properties.
- SUMM The present invention relates to roll-on or gel antiperspirant compositions having improved efficacy and esthetics, and to methods of using the antiperspirant compositions. More particularly, the present invention is directed to a transparent, roll-on or gel antiperspirant composition comprising an antiperspirant compound; a hydrophilic polymer; a carrier; and, optionally, a softening agent.

- SUMM In particular, the roll-on or **gel** or solid antiperspirant compositions comprise:
- SUMM The transparent, roll-on or **gel** antiperspirant compositions maintain composition clarity over extended storage periods, are essentially nonstaining and nonwhitening to skin and clothing, effectively deliver. . . .
- SUMM In a preferred embodiment, the transparent roll-on or **gel** antiperspirant composition comprises:
- SUMM . . . of at least about 20,000, a polyethylene glycol having a weight average molecular weight of at least 100,000, a water-soluble **cellulosic** polymer, and mixtures thereof;
- SUMM In another preferred embodiment, the transparent, roll-on or **gel** antiperspirant compositions include a hydrophobic compound to improve a particular esthetic or functional property of the antiperspirant compound. The hydrophobic. . . .
- SUMM . . . malodors associated with human perspiration, especially underarm odor. The method comprises topically applying an effective amount of a roll-on or **gel** antiperspirant composition of the present invention to the skin of a human.
- DETD A roll-on or **gel** antiperspirant composition of the present invention comprises an antiperspirant compound, a hydrophilic polymer, a carrier, and, optionally, a softening agent. In particular, the roll-on or **gel** antiperspirant compositions have a pH of about 2 to about 6 and comprise:
- DETD The transparent roll-on or **gel** antiperspirant compositions are stable to phase separation, do not become hazy or milky during storage, and exhibit exceptional esthetic and. . . .
- DETD The present roll-on or **gel** antiperspirant compositions incorporate any of the antiperspirant compounds known in the art, such as the astringent salts. The astringent salts. . . .
- DETD The antiperspirant compound is present in the **gelled** antiperspirant composition in an amount of about 1% to about 40%, and preferably about 5% to about 30%, by weight. . . .
- DETD . . . (metal to chlorine) of about 0.73 to about 1.93. These antiperspirant compounds typically are acidic in nature, thereby providing a **gelled** antiperspirant composition having a pH less than 7, and typically having a pH of about 2 to about 6, and. . . .
- DETD In addition to the antiperspirant compound, a roll-on or **gel** antiperspirant composition of the present invention also includes about 0.005% to about 10%, and preferably about 0.01% to about 5%,. . . .
- DETD A roll-on or **gel** antiperspirant composition including an antiperspirant compound, like an aluminum chlorohydrate, and a hydrophilic polymer is a transparent, viscous or **gelled** composition. The viscosity and **gel** consistency can be adjusted to provide a commercially-acceptable product.
- DETD . . . are not limited to, polyethylene glycols, polypropylene glycols, polyacrylamides, polymethacrylamides, polyvinyl alcohols, polyvinyl pyrrolidones, dimethicone copolyols, alkyl dimethicone copolyols, water-soluble **cellulosic** polymers, hydroxypropylmethylcellulose, hydroxyethyl cellulose, hydroxybutylmethylcellulose, carboxymethylcellulose, polyoxyethylenepolyoxypropylene copolymers, polyurethanes, and mixtures thereof, as long as the hydrophilic polymer is water. . . .
- DETD The carrier of the present roll-on or **gel** antiperspirant composition comprises water, water-soluble solvents and mixtures thereof. Exemplary carriers include, but are not limited to, water, ethylene glycol,. . . .
- DETD The present roll-on or **gel** antiperspirant compositions also can include an optional softening agent. The softening agent ensures efficacious delivery of the antiperspirant composition to. . . .
- DETD In addition to the essential ingredients and the optional softening agent, the present roll-on or **gel** antiperspirant compositions

also can include other optional ingredients traditionally included in antiperspirant compositions. These optional ingredients include, but are not.

- DETD The present roll-on or **gel** antiperspirant compositions typically are transparent. However, opacifying agents, pearlescent agents or fillers (e.g., titanium dioxide or a styrene-acrylamide copolymer) that.
- DETD Other suitable hydrophobic compounds include **waxes**, oils and fats, and water-insoluble emollients, like fatty (C.sub.8 -C.sub.22) alcohols. The hydrophobic compounds are emulsified by including an emulsifying.
- DETD To demonstrate the roll-on or **gel** antiperspirant compositions of the present invention, the following nonlimiting examples were prepared. In some cases, the composition of a particular antiperspirant compositions have the added esthetic benefit of being transparent. Heretofore, transparency has been difficult to achieve in roll-on or **gel** antiperspirant compositions because the **gelling** agents either interacted with the antiperspirant compound or were ineffective at a low pH of about 2 to about 6.
- DETD In accordance with another important feature of the present invention, the transparent roll-on or **gel** antiperspirant compositions of the present invention are manufactured by simply admixing composition ingredients at a relatively low temperature. Contrary to prior methods of manufacturing roll-on or **gel** antiperspirant compositions, the elevated temperatures needed to melt the thickening agents, and the long cooling times to provide the antiperspirant.
- DETD . . . following examples, the antiperspirant compositions were transparent and phase-stable over the life of the product; were viscous (roll-on) or firm (**gel**); were easy to apply and effectively delivered the antiperspirant compound to the skin; and did not whiten the skin or.
- DETD The composition of Example 1 was a slightly hazy, pale yellow, flowable **gel**-like composition which spread easily on the skin and dried quickly, leaving behind a film. The composition of Example 1 had.
- DETD Accordingly, a sufficient amount of hydrophilic polymer in the composition provides a roll-on to **gel** composition of desired consistency. The necessary amount of hydrophilic polymer to provide a desired composition varies with the amount of.
- DETD For a **gel** antiperspirant composition, a sufficient amount of hydrophilic polymeric binder is present in the antiperspirant composition if the composition has a.
- DETD Present-day roll-on and **gel** antiperspirants leave a cosmetically-unacceptable white residue on the skin or clothing after application to the skin. The present compositions incorporating a hydrophilic polymer in roll-on or **gel** antiperspirant compositions have a consumer acceptable firmness or viscosity and also reduce the white residue on skin and clothing.
- DETD The following compositions of Examples 2-5 demonstrate that incorporating a hydrophilic polymer in roll-on or **gel** antiperspirant compositions leaves no visually-observable white residue on the skin. The compositions of Examples 2 and 3 were identical, except.
- DETD . . . the present invention also can incorporate a softening agent. The softening agent improves the ability of the transparent, roll-on or **gel** antiperspirant composition to deliver the antiperspirant compound to the skin. The antiperspirant compositions including a softening agent were roll-on or **gel** products having excellent esthetic and functional properties, including an improved ability to deliver the antiperspirant compound to the skin. A.
- DETD In accordance with an important feature of the present invention, the transparent roll-on or **gel** antiperspirant compositions also can incorporate an emulsified hydrophobic compound and maintain

composition transparency, efficacy and esthetics. Such antiperspirant compositions therefore. . . .

DETD compound, such as, for example, hydrocarbon oils, volatile and nonvolatile hydrocarbon fluids, volatile cyclic dimethylsiloxanes, volatile and nonvolatile linear dimethylsiloxanes, **waxes**, and saturated and unsaturated oils and fats, and water-insoluble emollients, such as fatty (C.sub.8 -C.sub.22) alcohols. The oil phase conventionally. . . .

DETD then was added to phase II, slowly, and with mixing. The admixture initially was very viscous, then set into a **gel**. The composition of Example 6 was a water-clear **gel**. The composition of Example 7 was a slightly hazy **gel**. The compositions of Examples 6 and 7 each exhibited good tactile properties.

DETD Roll-on or **gel** antiperspirant compositions of the present invention incorporating a hydrophobic compound exhibited consumer-acceptable tack, transparency, viscosity or firmness, and pay-off (ability). . . .

DETD A transparent, roll-on or **gel** antiperspirant compositions of the present invention including emulsified hydrophobic components can be prepared. By a judicious choice of ingredients, the transparent roll-on or **gel** antiperspirant compositions demonstrate excellent esthetic and functional properties, such as transparency, pay-off, viscosity or firmness and low tack. In addition,. . . .

CLM What is claimed is:

1. A roll-on or **gel** antiperspirant composition comprising: (a) about 1% to about 40% by weight of an antiperspirant compound; (b) about 0.005% to about. . . .
6. The antiperspirant composition of claim 1 wherein the composition is a **gel** having a viscosity of about 50,000 to about 200,000 centipoise millimeters.
23. A roll-on or **gel** antiperspirant composition comprising: (a) about 5% to about 30% by weight of an aluminum halide, an aluminum hydroxyhalide a zirconyl. . . .

=> d his

(FILE 'HOME' ENTERED AT 12:51:00 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 12:51:28 ON 06 FEB 2006

L1 359814 S MICROEMULSION? OR EMULSION? OR ENCAPSUL?

L2 56901 S OIL-IN-WATER?

L3 11524 S ANTIPERSPIRANT? OR DEODORANT?

L4 850 S L3/TI

L5 120 S L4 AND L2

L6 110 S L5 AND L1

L7 469837 S GEL?

L8 96 S L6 AND L7

L9 44070 S CELLULOSIC?

L10 8 S L8 AND L9

L11 151656 S WAX?

L12 8 S L10 AND L11

L13 148590 S HARDNESS?

L14 5 S L12 AND L13

L15 1442065 S CLEAR?

L16 5 S L14 AND L15

L17 1 S US5534245/PN

L18 281680 S CREAM? OR SOFT SOLID? OR STICK?

L19 1 S L18 AND L17

L20 1 S L19 AND L16

10/632,407

=> s l17 and l13

L21 1 L17 AND L13

=> d kwic

L21 ANSWER 1 OF 1 USPATFULL on STN

PI US 5534245 19960709

<--

SUMM . . . hard, and leave a cosmetically-unacceptable powdery residue after application. Frequently, wax-based products are cosmetically unacceptable because of such factors as **hardness**, greasiness and tackiness. The opacity of wax sticks and the visually-observable white residue remaining after application also are esthetically undesirable.

=> s l15 and l17

L22 1 L15 AND L17

=> d kwic

L22 ANSWER 1 OF 1 USPATFULL on STN

PI US 5534245 19960709

<--

SUMM Prior transparent, gel antiperspirant compositions also typically were divided into three main classes. One of these classes is the optically-**clear** gelled emulsion compositions. These compositions include a water phase and an oil phase. The oil phase is suspended in the. . . using a sufficient amount of an appropriate emulsifier or emulsifiers. The emulsions conventionally contained waxes, silicones, clays and emollients. The optically-**clear** gelled emulsion compositions are illustrated in U.S. Pat. Nos. 4,673,570, 4,268,499, 4,278,655, and 4,350,605; EP 0 450 597; and in. . .

SUMM The optically-**clear** gelled emulsion compositions often exhibit the disadvantages of composition instability during storage; the development of a hazy or milky appearance. . . often leave a visible residue, in the form of a white layer, on the skin or clothing. Another disadvantage of optically-**clear** gelled emulsion compositions is the complex method of preparing an optically-**clear** gelled emulsion composition. The method traditionally requires high shear rates during mixing, high processing temperatures, and a series of cooling and heating process steps. In one embodiment of the present invention, optically-**clear** gelled emulsion compositions are prepared by a simple method to provide antiperspirant compositions that overcome the above-described disadvantages of optically-**clear** gelled emulsion compositions.

SUMM Although numerous patents disclose transparent gel antiperspirant compositions, the gel compositions designated as **clear** or transparent do not have the clarity desired by consumers. Some transparent antiperspirant compositions also exhibit syneresis, or phase separation,. . .

DETD . . . with mixing. The admixture initially was very viscous, then set into a gel. The composition of Example 6 was a water-**clear** gel. The composition of Example 7 was a slightly hazy gel. The compositions of Examples 6 and 7 each exhibited. . .

10/632,407

L28 ANSWER 1 OF 1 USPATFULL on STN

PI US 5635165 19970603

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SUMM . . . and leave a cosmetically unacceptable powdery residue after application. Frequently, wax-based products are cosmetically unacceptable because of such factors as **hardness**, greasiness and tackiness. The visually observable white residue remaining after application also is esthetically undesirable.

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NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
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10/632,407

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Feb 2006 (20060202/PD)
FILE LAST UPDATED: 2 Feb 2006 (20060202/ED)
HIGHEST GRANTED PATENT NUMBER: US6993790
HIGHEST APPLICATION PUBLICATION NUMBER: US2006026727
CA INDEXING IS CURRENT THROUGH 2 Feb 2006 (20060202/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Feb 2006 (20060202/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s antiperspirant? or deodorant?

3629 ANTIPERSPIRANT?

10445 DEODORANT?

L1 11524 ANTIPERSPIRANT? OR DEODORANT?

=> s l1/ti

445 ANTIPERSPIRANT?/TI

498 DEODORANT?/TI

L2 850 (ANTIPERSPIRANT?/TI OR DEODORANT?/TI)

=> s microemulsion? or emulsion? or encapsul?

13308 MICROEMULSION?

222141 EMULSION?

174092 ENCAPSUL?

L3 359814 MICROEMULSION? OR EMULSION? OR ENCAPSUL?

=> s l2 and l3

L4 342 L2 AND L3

=> s cellulosic? or cellulose?

44070 CELLULOSIC?

255895 CELLULOSE?

L5 271258 CELLULOSIC? OR CELLULOSE?

=> s l4 and l5

L6 110 L4 AND L5

=> s oil-in-water?

581756 OIL

1305183 WATER?

L7 56901 OIL-IN-WATER?
(OIL(1W)WATER?)

=> s l6 and l7

L8 37 L6 AND L7

=> s cream? or soft solid? or stick?

89800 CREAM?

350688 SOFT

1252731 SOLID?

1412 SOFT SOLID?

(SOFT(W) SOLID?)

205405 STICK?

L9 281680 CREAM? OR SOFT SOLID? OR STICK?

=> s l8 and l9

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L10 35 L8 AND L9

=> s gel?

L11 469837 GEL?

=> s l10 and l11

L12 34 L10 AND L11

=> s hardness?

L13 148590 HARDNESS?

=> s l12 and l13

L14 9 L12 AND L13

=> s polymer? or wax?

731584 POLYMER?

151656 WAX?

L15 787167 POLYMER? OR WAX?

=> s l14 and l15

L16 9 L14 AND L15

=> d 1-9 ibib abs

L16 ANSWER 1 OF 9 USPATFULL on STN

ACCESSION NUMBER: 2004:306455 USPATFULL

TITLE: Suspension free and elastomer free
antiperspirant cream

INVENTOR(S): Popoff, Christine, Morganville, NJ, UNITED STATES
Holerca, Marian, Somerset, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004241123	A1	20041202
APPLICATION INFO.:	US 2003-449289	A1	20030530 (10)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Colgate-Palmolive Company, 909 River Road, P.O. Box 1343, Piscataway, NJ, 08855-1343		
NUMBER OF CLAIMS:	17		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1217		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is a suspension free and elastomer-free composition comprising: (a) 0.1-30 weight % of an antiperspirant active having a low metal to chloride ratio in the range of 0.9 to 1.5:1; (b) 7-28.4 weight % of one or more volatile silicones having a flash point of 100 degrees C. or less; (c) 0.6-2.0 weight % of a silicone surfactant having an HLB values \leq 8; (d) 30-70 weight % water; (e) 0-3 weight % of a water soluble glycol or polyglycol; (f) 1-5% silicone emollient; and (g) 0-3 weight % of a non-siliconized organic fragrance solubilizer; wherein the composition is optically a white suspension-free **cream** and has a viscosity greater than 150,000 centipoise and a ratio of oil phase to water phase in the range of 10:90 to 30:70.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 2 OF 9 USPATFULL on STN

ACCESSION NUMBER: 2002:321998 USPATFULL

TITLE: **ANTIPERSPIRANT OR DEODORANT COMPOSITIONS**

INVENTOR(S): McGlone, Francis, Bebington, UNITED KINGDOM

Paterson, Sarah, Bebington, UNITED KINGDOM
 Rawlings, Anthony Vincent, Bebington, UNITED KINGDOM
 Rukwied, Roman, Bebington, UNITED KINGDOM
 Watkinson, Allan, Bedford, UNITED KINGDOM
 PATENT ASSIGNEE(S): Unilever Home & Personal Care USA, Division of Conopco,
 Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002182159	A1	20021205
	US 6503492	B2	20030107
APPLICATION INFO.:	US 2002-79083	A1	20020219 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 2001-4268	20010221
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ, 07020	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1	
LINE COUNT:	992	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Deodorant and antiperspirant compositions comprising an aluminum or aluminum-zirconium active can suffer from perceived irritancy when applied topically, which is generally manifested as an itch sensation. This irritancy can be ameliorated or overcome by incorporating within the composition a cannabanoid receptor (CBR) activating agent, and especially an amount selected in the range of from 0.25 to 10 wt %.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 3 OF 9 USPATFULL on STN

ACCESSION NUMBER: 2002:9640 USPATFULL
 TITLE: **Antiperspirant** product with dibenzylidene sorbitol and elastomer in dimethicone
 INVENTOR(S): Mattai, Jairajh, Piscataway, NJ, United States
 Ortiz, Claudio, Dayton, NJ, United States
 Guenin, Eric, Pennington, NJ, United States
 Afflitto, John, Brookside, NJ, United States
 PATENT ASSIGNEE(S): Colgate-Palmolive Company, New York, NY, United States
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6338841	B1	20020115
APPLICATION INFO.:	US 2001-682101		20010719 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Miano, Rosemary M.		
NUMBER OF CLAIMS:	13		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	931		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention comprises a clear to translucent anhydrous **stick** or **gel** antiperspirant and/or deodorant product having low tack and comprising: (a) a solvent phase comprising: (i) 0.2-4.0 weight % dibenzylidene sorbitol; (ii) 0.05-1.0 weight % of a co-gellant or structural integrity enhancer; (iii) 25-75 weight % of a solvent

selected from the group consisting of polyhydric alcohols; (iv) an effective amount of an antiperspirant or deodorant; and (v) 0.1-5 weight % dimethicone copolyol; and (b) an oil phase comprising: (i) 0.25-5 weight % of a silicone elastomer (on a solids basis) in a first dimethicone wherein the dimethicone has a viscosity in the range of 6-100 centistokes and a flashpoint in the range of about greater than 115 degrees C. to 300 degrees C.; and (ii) 1-25 weight % of a second dimethicone (including the dimethicone from part (b)(i)), wherein the second dimethicone may be selected from the same group or a different group than the first dimethicone; and (iii) 0-10 weight % emollients; wherein the oil phase is 5-50% of the composition and the solvent phase is 50-95% of the composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 4 OF 9 USPATFULL on STN

ACCESSION NUMBER: 97:47083 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Radd, Billie L., Naperville, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5635166		19970603
APPLICATION INFO.:	US 1996-635674		19960422 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1995-373111, filed on 17 Jan 1995, now patented, Pat. No. US 5534245 which is a continuation-in-part of Ser. No. US 1994-199492, filed on 22 Feb 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	27		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1055		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Roll-on or **gel** antiperspirant compositions comprising an antiperspirant compound, a hydrophilic **polymer**, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 5 OF 9 USPATFULL on STN

ACCESSION NUMBER: 97:47082 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Panitch, Maximo M., Skokie, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5635165		19970603
APPLICATION INFO.:	US 1995-534277		19950927 (8)
DOCUMENT TYPE:	Utility		

10/632,407

FILE SEGMENT: Granted
PRIMARY EXAMINER: Dodson, Shelley A.
LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun
NUMBER OF CLAIMS: 45
EXEMPLARY CLAIM: 1
LINE COUNT: 1179

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Gel antiperspirant compositions comprising an antiperspirant compound, a **gelling** agent selected from the group consisting of a sterol and a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, a carrier comprising a silicone or a hydrocarbon, and, optionally, a fatty alcohol, a fatty ester, water, or a mixture thereof, are disclosed. Aerosol antiperspirant compositions also are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 6 OF 9 USPATFULL on STN

ACCESSION NUMBER: 97:44744 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Panitch, Maximo M., Skokie, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5632974		19970527
APPLICATION INFO.:	US 1996-658320		19960606 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-355636, filed on 14 Dec 1994, now patented, Pat. No. US 5549887 which is a continuation-in-part of Ser. No. US 1994-199763, filed on 22 Feb 1994, now abandoned		

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Ivy, C. Warren

ASSISTANT EXAMINER: Huang, Evelyn

LEGAL REPRESENTATIVE: Marshall, O'Toole, Gerstein, Murray & Borun

NUMBER OF CLAIMS: 29

EXEMPLARY CLAIM: 1

LINE COUNT: 1659

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Gelled or solid antiperspirant compositions comprising an antiperspirant compound, a borate crosslinker, a hydrophilic **polymeric** binder, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 7 OF 9 USPATFULL on STN

ACCESSION NUMBER: 96:77547 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States

Panitch, Maximo M., Skokie, IL, United States

Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5549887		19960827
APPLICATION INFO.:	US 1994-355636		19941214 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-199763, filed on 22 Feb 1994		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	29		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1667		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Gelled or solid antiperspirant compositions comprising an antiperspirant compound, a borate crosslinker, a hydrophilic polymeric binder, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 8 OF 9 USPATFULL on STN

ACCESSION NUMBER: 96:60434 USPATFULL

TITLE: Antiperspirant deodorant compositions

INVENTOR(S): Galleguillos, Ramiro, Glendale Heights, IL, United States
Radd, Billie L., Naperville, IL, United States
Jadav, Anjana K., Chicago, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5534245		19960709
APPLICATION INFO.:	US 1995-373111		19950117 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-199492, filed on 22 Feb 1994		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	27		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1045		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Roll-on or gel antiperspirant compositions comprising an antiperspirant compound, a hydrophilic polymer, a carrier, and, optionally, a softening agent, are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 9 OF 9 USPATFULL on STN

ACCESSION NUMBER: 96:22893 USPATFULL

TITLE: Deodorant and antiperspirant compositions containing polyamide gelling agent

INVENTOR(S): Mendolia, Michael S., Bridgewater, NJ, United States
Esposito, Anthony, Roselle, NJ, United States
Tassoff, James A., West Caldwell, NJ, United States

Ross, Lloyd, Hampton, NJ, United States
 Fessock, Paul J., South Plainfield, NJ, United States
 Barr, Morton L., East Brunswick, NJ, United States
 Vincenti, Paul J., Jefferson, NJ, United States
 PATENT ASSIGNEE(S): The Mennen Company, Morristown, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5500209		19960319
APPLICATION INFO.:	US 1994-214111		19940317 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Antonelli, Terry, Stout & Kraus		
NUMBER OF CLAIMS:	49		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1455		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a **gel** or **stick** composition for reduction of body malodor, containing active deodorant and/or antiperspirant ingredients, a polyamide **gelling** agent and a solvent system for the polyamide **gelling** agent. The polyamide **gelling** agent has good stability, even in the presence of acidic antiperspirant metal salts, and can provide a clear deodorant or antiperspirant **gel** or **stick**. The composition has good pay-off characteristics and application properties, and good structural integrity. Moreover, the composition can be formulated so as not to leave any undesirable residue, such as a white residue left after applying conventional antiperspirant **sticks**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s us5500209/pn
 L17 1 US5500209/PN

=> d his

(FILE 'HOME' ENTERED AT 13:01:24 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 13:01:34 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
 L2 850 S L1/TI
 L3 359814 S MICROEMULSION? OR EMULSION? OR ENCAPSUL?
 L4 342 S L2 AND L3
 L5 271258 S CELLULOSIC? OR CELLULOSE?
 L6 110 S L4 AND L5
 L7 56901 S OIL-IN-WATER?
 L8 37 S L6 AND L7
 L9 281680 S CREAM? OR SOFT SOLID? OR STICK?
 L10 35 S L8 AND L9
 L11 469837 S GEL?
 L12 34 S L10 AND L11
 L13 148590 S HARDNESS?
 L14 9 S L12 AND L13
 L15 787167 S POLYMER? OR WAX?
 L16 9 S L14 AND L15
 L17 1 S US5500209/PN

=> s l16 and l17

L18 1 L16 AND L17

=> d kwic

L18 ANSWER 1 OF 1 USPATFULL on STN

TI **Deodorant and antiperspirant** compositions containing polyamide **gelling** agent

PI US 5500209 19960319 <--

AB Disclosed is a **gel** or **stick** composition for reduction of body malodor, containing active deodorant and/or antiperspirant ingredients, a polyamide **gelling** agent and a solvent system for the polyamide **gelling** agent. The polyamide **gelling** agent has good stability, even in the presence of acidic antiperspirant metal salts, and can provide a clear deodorant or antiperspirant **gel** or **stick**. The composition has good pay-off characteristics and application properties, and good structural integrity. Moreover, the composition can be formulated so as not to leave any undesirable residue, such as a white residue left after applying conventional antiperspirant **sticks**.

SUMM The present invention is directed to a composition for combatting body malodor, in **stick** or **gel** form, having an active ingredient (for example, an active deodorant material, an active antiperspirant material, etc.) incorporated therein. The composition. .

SUMM The present invention is particularly directed to antiperspirant compositions in **stick** or **gel** form. More particularly, the present invention is directed to a **gel** or **stick** composition including a **gelling** agent, and having an active ingredient (for example, an active antiperspirant material) incorporated therein, especially wherein the **gelling** agent is stable even in the presence of acidic active antiperspirant materials. The present composition can, preferably, be translucent or. . . (that is, it can be opaque). Compositions according to the present invention can even be white-opaque as is conventional antiperspirant **stick** compositions, using, for example, a **waxy** substance such as stearyl alcohol for the antiperspirant **stick**

SUMM . . . products are well known in the art. Antiperspirant products have appeared in the marketplace in various dosage forms, such as **sticks**, **gels**, roll-ons, aerosols and **creams**. Generally, these dosage forms include a solution of the active ingredient in a suitable solvent, a suspension of the active ingredient in a non-solvent, or a multiphasic dispersion or **emulsion** in which a solution of the active ingredient is dispersed in some continuous phase or in which the solubilized active. . .

SUMM The **stick** form has become the dominant antiperspirant dosage form in the United States market, constituting more than 50% of total antiperspirant sales, and is popular to varying degrees globally. Cosmetically acceptable antiperspirant **sticks** typically consist of a suspension of spray-dried active antiperspirant material in vehicles such as cyclomethicone, with a **waxy** substance such as stearyl alcohol, alone or in combination with castor **wax**, **gelling** or thickening the suspension sufficiently to create a suitable **stick**.

SUMM The **stick** form can be distinguished from a **gel** or a paste in that in a **stick**, the formulated product can maintain its shape for extended time periods outside the package, the product not losing its shape significantly (allowing for some shrinkage due to solvent evaporation). One can adjust the amount of stearyl alcohol and castor **wax** and modify the manufacturing process to effect formation of a viscous **gel** or paste in place of the **stick**. Alternative **gelling** or thickening agents such

as the bentones, fumed silica or polyethylene can be used in place of the **wax** to form the **gel** or paste. These **gels** or pastes can be suitably packaged in containers which have the appearance of a **stick**, but which dispense through apertures on the top surface of the package. These products have been called soft **sticks** or "smooth-ons". Hereinafter, these soft **sticks** are generically called "**gels**". Reference is made to U.S. Pat. No. 5,102,656 to Kasat, No. 5,069,897 to Orr, and No. 4,937,069 to Shin, each of which disclose such **gels**, including physical characteristics thereof such as viscosity and **hardness**. The contents of each of these three U.S. patents are incorporated herein by reference in their entirety.

SUMM The hard **stick** dosage form (hereinafter called "**sticks**"), although widely accepted by the consumer, suffers from leaving a white residue on skin after application, and can cause staining of fabric, which is considered to be undesirable, particularly by female consumers. The **gel** dosage form can be formulated to eliminate the white residue; however, the product appears initially as white and opaque, requiring consumer education and trial to fully appreciate the low-residue property. Furthermore, in **gels** of this type, the active ingredient is suspended in a vehicle such as cyclomethicone; in such suspensions, syneresis and creeping. . .

SUMM Illustratively, U.S. Pat. No. 3,341,465 to Kaufman, et al discloses a clear, transparent oil-in-water **gel emulsion** for cosmetic purposes. The **emulsion** disclosed therein includes water, an ester of a lower monohydric alcohol and a fatty acid, a higher fatty acid alkylolamide, . . . having at least one free hydroxyl group and at least one esterified fatty acid group. This patent discloses that the **emulsions** can include various cosmetic adjuvants including bactericides such as hexachlorophene.

SUMM Recently, there has been significant activity in developing clear and translucent antiperspirant **sticks** and **gels**. Clear or translucent antiperspirant **sticks** consisting essentially of a solution of the active antiperspirant material in a polyhydric alcohol vehicle, **gelled** by dibenzylidene monosorbitol acetal, have been disclosed. Since the **gelling** agent is inherently unstable in an acidic environment, and since conventional active antiperspirant materials are acidic, much work has been involved in discovering suitable stabilizing or buffering agents to prevent or slow down acid attack on the acetal **gelling** agent. Such work has not been completely successful. Moreover, these clear or translucent antiperspirant **sticks**, containing the acetal **gelling** agent and including a solubilized active antiperspirant material, have the disadvantage of being inherently tacky. Thus, development work in connection with these clear or translucent antiperspirant **sticks** containing the acetal **gelling** agent has focused on discovering suitable anti-tack agents for this dosage form. However, since acid hydrolysis of the **gelling** agent occurs more rapidly in aqueous solutions, formulators have been forced to avoid using water in the formulations. This severely. . .

SUMM Clear and translucent antiperspirant **gels** (which have been dispensed from containers having the appearance of a **stick**) have been marketed, consisting of viscous, high internal phase **emulsions**. These **gels** exhibit some advantages over the aforementioned acetal-based clear **sticks**, in that the selection of formulation ingredients is less restricted (for example, water can be used), and often tack can be reduced significantly. But these **emulsions** still suffer from the disadvantages of feeling cool to the skin upon application, and often require the use of ethanol, . . .

SUMM . . . No. 4,863,721 to Beck, et al discloses a polar solvent-free antiperspirant composition including specific amounts of at least one

particulate **cellulose** ether **polymer**, at least one active antiperspirant material, and at least one anhydrous antiperspirant carrier. This patent discloses that the composition has a reduced tendency to sting the user since it is free of polar solvent. The composition, in **stick** form, includes **waxy** materials, and also includes an inert spherical particulate material having a mean diameter of at least about 10 microns and. . .

SUMM . . . at least one of the polyanionic polyamide compounds can be used in the form of, e.g., aqueous or aqueous-alcoholic solutions, **emulsions**, **sticks**, **powders**, **creams**, **aerosols**, **gels** or solid cakes.

SUMM . . . salts in deodorants as odor absorbers, this patent does not each now to avoid previously discussed problems arising in known **stick** or **gel** compositions, in connection with **stick** or **gel** antiperspirant compositions, in connection with the **gelling** agents. This patent does not disclose use of the polyanionic polyamides as **gelling** agents, to cause **gelation** of the compositions into **gels** or **sticks**.

SUMM International (Published) Patent Application No. WO93/24105 discloses a topical antiperspirant composition consisting essentially of a non-toxic water-insoluble occlusive film-forming antiperspirant **polymer** as the antiperspirant active agent, so that an antiperspirant composition with reduced amounts of aluminum (or other metal) antiperspirant material can be achieved. The antiperspirant **polymer** can be an alkyl olefinic acid amide/olefinic acid or ester copolymer alone or in combination with a water-repellent **polymer** or a PVP/linear alpha-olefin copolymer; or an octylacrylamide or propenamide/acrylate copolymer alone or with a PVP/linear alpha-olefin copolymer or a PVP/Eicosene copolymer, among others. The topical antiperspirant can be in **stick** form; various examples show use of stearyl alcohol and/or sodium stearate as **gelling**/thickening agents for forming the topical antiperspirant in **stick** form.

SUMM This International Published Patent Application discloses the **polymer** (copolymer) as the antiperspirant active agent, and, in the composition in **stick** form, does not disclose that the **polymer** is a **gelling**/thickening agent. Other components of the composition in **stick** form act as the **gelling**/thickening agent.

SUMM . . . to Miller discloses transparent combustible material suitable for candle bodies, including a mineral oil and/or a natural oil as a **gel** base; a polyamide resin as the **gelling** agent; and an 8-,10- or 12- carbon primary alcohol, the primary alcohol being necessary so that the **gel** system burns with a satisfactory flame, and to avoid a greasy appearance and feel of the material. This patent discloses that the polyamide, which serves to **gel** the oil, can be one of a number of long-chain linear amide resin **polymers** derived from the reaction of dimerized linoleic acid with di- or polyamines, the polyamides useful for forming the material for. . .

SUMM . . . disclosure, directed to a candle body, does not address the problems addressed by the present invention (for example, providing a **gel** or **stick** composition having good pay-off and aesthetic characteristics, and good stability in the presence of acidic active antiperspirant materials, yet which. . .

SUMM . . . acid and a diamine, the carboxyl and amino groups of adjacent monounits being condensed to an amide linkage in the **polymer**. This patent discloses that the polyamide resin should be modified to have good properties as a lipstick by compounding with. . .

SUMM . . . 3,148,125 is concerned solely with cosmetic lipsticks, carrying color for staining the lips. This patent does not disclose stable

deodorant **sticks** and/or **gels**, such as antiperspirant **sticks** and/or **gels**, particularly which are stable in the presence of acidic active antiperspirant materials. Moreover, this patent is concerned with leaving a color residue on the lips, and is not concerned with a low-residue **stick** or **gel**

SUMM composition to be applied, for example, to axillary regions of the skin. Accordingly, there is still a need for providing a stable deodorant or antiperspirant **stick** and/or **gel**, for example, an antiperspirant **stick** or **gel**, which delivers the promise of a low residue benefit to the consumer in a meaningful and unencumbered way; which can. . .

SUMM Accordingly, it is an object of the present invention to provide a composition for combatting (reducing) body malodor, e.g., in **stick** or **gel** form, that can be opaque, translucent or clear, containing an active deodorant and/or antiperspirant ingredient and a solidifying (**gelling**/thickening, hereinafter "**gelling**") agent, which has good pay-off and aesthetic characteristics, and a method of making such composition.

SUMM It is a further object of the present invention to provide a **stick** or **gel** composition for reducing body malodor, containing an active deodorant and/or antiperspirant ingredient and **gelling** agent, having good structural integrity.

SUMM It is a further object of the present invention to provide a **stick** or **gel** composition for reducing body malodor, that can preferably be clear even when an active antiperspirant ingredient is incorporated therein.

SUMM It is a further object of the present invention to provide an antiperspirant **stick** or **gel** composition, wherein the active antiperspirant ingredient does not degrade the **gelling** agent, even where such active antiperspirant ingredient is an acidic antiperspirant metal salt, and a method of making such composition.

SUMM It is a still further object of the present invention to provide an antiperspirant **stick** or **gel** composition containing an antiperspirant metal salt, such as aluminum chlorohydrate or aluminum-zirconium tetrachlorohydrate-Gly, wherein the antiperspirant metal salt does not degrade the **gelling** agent (that is, the **gelling** agent is stable in the presence of the acidic antiperspirant metal salt).

SUMM It is a still further object of the present invention to provide an antiperspirant **stick** or **gel** composition, containing an active antiperspirant ingredient and a **gelling** agent, which leaves at most only a small residue, or a residue that is optically clear, after being applied to. . .

SUMM It is a still further object of the present invention to provide an antiperspirant **stick** or **gel** composition containing an active antiperspirant ingredient and a **gelling** agent, wherein the composition is clear, and wherein the **gelling** agent is stable even in the presence of the active antiperspirant ingredient, and a method of making such composition.

SUMM It is a still further object of the present invention to provide a **stick** or **gel** composition for reducing body malodor, containing an active deodorant and/or antiperspirant ingredient and **gelling** agent, which does not exhibit excessive syneresis, and which is reversible (that is, which can be melted and re-cast in. . .

SUMM The foregoing objects are achieved by the present composition, which is a **gel** or **stick**, and which includes active deodorant and/or antiperspirant ingredients, a polyamide **gelling** agent, and a solvent for the polyamide **gelling** agent.

SUMM The polyamide is a **gelling** agent in the composition, such **gelling** agent acting to provide the composition as a **gel** composition (e.g., a "soft **stick**") or a **stick** composition (e.g., "hard **stick**"); the **gelling** agent

forms a continuous phase of the composition. The active deodorant and/or antiperspirant ingredient can be in solution in this. . . phase; or can be dissolved in a second, discontinuous phase which is emulsified in the continuous phase (forming a solid **emulsion** as the composition for reducing body malodor).

SUMM The polyamide **gelling** agent of the present invention must be soluble in a cosmetically acceptable solvent at elevated temperatures, and solidify (e.g., **gel**) upon cooling; acceptable solvents include (but are not limited to) various alcohols, including (but not limited to) dipropylene glycol, hexylene. . .

SUMM The polyamides which are useful as **gelling**/thickening agents for the present invention should be soluble in suitable cosmetic solvents at room temperature or elevated temperatures (particularly at.

SUMM . . . present invention. Polyamides based on fatty acids are described in detail and distinguished from conventional nylons, in the Encyclopedia of **polymer** science and Technology, vol. 10, page 597 (1972) and in the monograph The Dimer Acids (Edward C. Leonard, Ed.) (1975), . . .

SUMM The neutral polyamides are most preferred as **gelling** /thickening agents according to the present invention. The fatty acids employed as reagents are typically derived from tall oil, and illustratively. . . and are not purely difunctional. For example, in commercial dimer acids, typically some trimer acid is present. As a result, **polymers** based on dimer acids usually possess some degree of branching or cross linking. As a result, the dimer acid-based **polymers** typically have relatively low molecular weights. Neutral polyamides based on dimer acids, and preferred for use in the present invention, generally have molecular weights from 1,000 to 30,000 daltons (molecular weight can be determined by **gel** permeation chromatography (GPC), with tetrahydrofuran (THF) a typical solvent). Illustratively, but not limiting, a maximum molecular weight of polyamides to. . .

SUMM The neutral polyamides of particular interest here are produced from a condensation **polymerization** involving acids and amines. The most important reagents to produce linear **polymers** would be diacids and diamines; but, as mentioned earlier, typically some polyfunctional reagents (such as trimer acids) are also employed in typical **polymerizations** (whether deliberately to produce some branching or cross-linking, or simply because the reagents are not completely purified). By the same. . . and hydroxy acids) can be used to modify the properties of the polyamide resins, such as solubility or tendency to **gel**. A combination of various acids and amines are typically used in the reagent mixture. For example, the dimer acid may.

SUMM The polyamides act as **gelling** agents under various conditions. **Gelation** may occur in systems whose polyamide concentration exceeds a certain concentration (which will vary with solvent system, and which may, . . . concentration at which molecular overlap is achieved) at temperatures below the melting point of the polyamide resin. The mode of **gelation** is thought to involve the crystallization of the polyamide, although applicants do not want to be limited to this theory. This theory is supported by several experimental observations: (1) the x-ray diffraction patterns of the **gels** typically include some sharp peaks, indicating the presence of some long-range order; and (2) by differential scanning calorimetry, it has been observed for some systems that the **gels** exhibit an endothermic event attributed to a melt at temperatures greater than room temperature, and the enthalpy of fusion of this event increases linearly with the polyamide weight fraction. If each **polymer** chain, on the average, is involved in at least two different crystallites, a macroscopic three-dimensional network is established, and the system

acquires the dimensional stability of a solid. This **gel** structure is not permanent since the junction zones are crystallites rather than the covalent bonds involved in cross-linked networks; as a consequence, simply heating the **gelled** systems to a temperature at which the crystallites melt will return the systems to a fluid state. This type of **gelation** is often called thermoreversible, or physical, **gelation**, and is well-known for a number of homopolymer or copolymer/solvent systems (for example, polyethylene in toluene or decalin; isotactic polystyrene. . .

SUMM Of course, the polyamide for use in the present invention must **gel** (solidify the composition), upon cooling of a solution of the polyamide from elevated temperatures.

SUMM . . . polyamide dissolves in the solvent at elevated temperatures (for example, 35°-150° C.). See the chapter entitled "Solubility Parameter Values" in **Polymer Handbook**, for what is meant by a "strong" hydrogen bonding solvent material. Generally, surface active agents are strong hydrogen bonding. . .

SUMM . . . system) is utilized such that the polyamide can be fully dissolved therein at elevated temperatures, and yet can form a **gel** therefrom (solidify) upon cooling.

SUMM Conventional antiperspirant metal salts can be incorporated in the composition of the present invention. The polyamide **gelling** agent, as part of the **gel** or **stick**, is stable in an acidic environment, so that the stability of the composition according to the present invention, in the presence of conventional acidic antiperspirant metal salts, is greatly improved as compared to, for example, **stick** compositions containing an antiperspirant metal salt and **gelled** utilizing a dibenzylidene monosorbitol acetal **gelling** agent. Thus, even if an acidic antiperspirant metal salt is incorporated in the composition of the present invention, the composition. . . to leave an undesirable white residue on the skin. This is a particular advantage of the present invention, since the **gellant** is largely in soluble form in the composition, and any crystallized particles are of sufficiently small particle size to allow transparency (avoid the white residue). Of course, if compositions of the present invention contain **gelling**/thickening agents other than the polyamide, such as **waxes**, a white residue would possibly be left on the skin.

SUMM The composition according to the present invention can include other ingredients conventionally incorporated in deodorant or antiperspirant **gels** and/or **sticks**, particularly if clarity is not a factor. As for various other ingredients which can be incorporated, attention is directed to. . .

SUMM Preferably, when the composition according to the present invention is in the form of a solid **emulsion**, the composition includes a surfactant, to ensure that the discontinuous phase stays dispersed upon cooling the composition until the polyamide **gels**. Such surfactant is also preferred such that the composition can be easily rinsed from the skin.

SUMM At lower levels of polyamide included in the composition, a **gel** is formed. At higher levels, or when other **gelling** agents are included in the composition, the **hardness** of the composition is increased, so as to form a hard **stick**. It is within the present invention that the composition includes conventional **gelling** agents, in addition to the polyamide, so as to provide a composition with increased **hardness**.

SUMM Antiperspirant compositions according to the present invention, containing an active antiperspirant material as the active ingredient incorporated in the **gelled** polyamide, can be formulated so as not to leave an undesirable white residue on skin following application, as occurs with conventional antiperspirant **sticks**. The antiperspirant compositions according to the present invention may be

- optically clear, and can deposit a suitable amount of active. . .
- SUMM While optically clear **gels** and **sticks** can be achieved according to the present invention, depending on other ingredients incorporated in the composition a translucent or opaque **stick** or **gel** will be provided. Depending on other **gelling/thickening** agents incorporated in the composition, the **stick** or **gel** composition of the present invention can have a same appearance as currently marketed antiperspirant **sticks**, which appear as opaque, usually white (unless colored with dyes) **waxy** solids which leave a white residue on skin immediately after application.
- SUMM As discussed previously, the composition according to the present invention can be formulated either as a **gel** or as a **stick**. It is difficult to quantitatively distinguish between a cosmetic "**gel**" and a cosmetic "**stick**". For example, note the discussion in the article by Schmolka, "**Gel** Cosmetics", in Cosmetics & Toiletries, Vol. 99 (November 1984), pp. 69-76. Generally, a **gel** is more viscous than a liquid, or than a paste which fails to retain its shape. It is not as rigid as a **stick**. Typically, it is understood that **gels** are soft, deformable products while **sticks** are free-standing solids.
- SUMM Almdale, et al (**Polymer Gels** and Networks, Vol. 1, No. 5 (1993)) list two criteria for defining a system as a **gel**: (1) a **gel** consists of two or more components, one of which is a liquid, present in substantial quantities; and (2) a **gel** is a **soft, solid** or solid-like material. This latter requirement can be described more accurately through rheological measurement. Typically, **gels** possess a storage modulus $G'(w)$ which exhibits a pronounced plateau at higher frequencies (on the order of seconds), and a . . . than the storage modulus in the plateau region. Many of the compositions according to the present invention, utilizing the polyamide **gelling** agent, are **gels** by the above definition. In the strict sense, the term "**gel**" applies to systems having a value $G'(w)$ that is higher than its value of $G''(w)$ at low frequencies; in practice, however, many products marketed as "**gels**" are truly viscous liquids (for example, some toothpastes). Many of the compositions according to the present invention, utilizing a polyamide **gelling** agent, are **gels** by the foregoing definition.
- SUMM In the cosmetic field, systems are sometimes classified as **gels** or **sticks**, depending on their viscosity or **hardness** alone; typically, it is understood that **gels** are soft, deformable products while **sticks** are strictly free-standing solids. For example, by rheological analysis, a commercial deodorant **stick** has been determined to have a plateau storage modulus $G'(w)$ of roughly $10.\text{sup.}3$ Pa and a complex viscosity of $10.\text{sup.}6$ Pa second (both at an angular frequency of 0.1 rad/sec). On the other hand, a commercial antiperspirant **gel** has been determined to have a $G'(w)$ value of roughly $10.\text{sup.}3$ Pa and a complex viscosity of $10.\text{sup.}4$ Pa second. . .
- SUMM . . . and their applications to cosmetic products are reviewed in Rheological Properties of Cosmetics and Toiletries, Dennis Laba, Ed. (1993). While **gels** and **sticks** do not necessarily have a clear distinction therebetween, for purposes of the present invention if the plateau storage modulus $G'(w)$. . . at angular frequencies in the range of 10-200 rad/sec) is higher than $10.\text{sup.}3$ Pa the composition can be considered a **stick**
- SUMM . . . from 2 to 40 (preferably 6 to 20) weight percent, of the total weight of the composition, of a polyamide **gellant**, which is defined as a **polymer** that contains recurring amide groups as an integral part of the main chain;
- SUMM . . . percent, preferably 30 to 95 weight percent, of the total

weight of the composition, of a solvent for the polyamide **gellant** (this solvent can also serve as a cosmetic emollient);

SUMM . . . of the present invention can include water. As mentioned previously, water desirably is not incorporated in clear or translucent antiperspirant **sticks gelled** by dibenzylidene monosorbitol acetal, since acid hydrolysis of the **gelling** agent occurs more rapidly in aqueous solutions.

SUMM . . . antiperspirant compositions can include, illustratively, deodorant materials, including (but not limited to) antimicrobial agents and deodorant fragrances. Auxiliary solidifying or **gelling** or thickening agents such as fatty alcohols containing from 16 to 55 carbon atoms, such as stearyl alcohol or behenyl. . . such as stearamide diethanolamine [N, N.sup.1 -bis(2-hydroxyethyl) stearamide]; ethylene dioleamide (N, N.sup.1 -1,2-ethanediyl bis-9-octadecenamide); ethylene distearamide (N,N.sup.1 -1,2-ethanediyl bis-9-stearamide); castor wax; polyvinyl alcohols; paraffin waxes; particulate polyethylenes; fumed silicas; carbowaxes; hydroxyethyl **cellulose** or hydroxypropyl **cellulose**; polysaccharides such as guar gum; and other materials known to those skilled in the art as **gellants**, can be incorporated as co-**gellants** according to the present invention, whether in antiperspirant compositions or other cosmetic compositions. These **gellants** can be used at appropriate levels, usually up to 20% by weight, of the total weight of the composition. In. . .

SUMM . . . invention need not contain the antiperspirant active ingredient, and can include various deodorant active ingredients, so as to provide deodorant **gel** or **stick** compositions. For example, a deodorant **stick** can be provided. In such deodorant **stick**, a fragrance would, illustratively, be included, in an amount of 0.5%-3.0% by weight, of the total weight of the composition; such deodorant **stick** would also preferably include an antimicrobial agent, such as Triclosan, in an amount of from 0.1% to 0.5% by weight, . . .

SUMM . . . of the active material when the composition is rubbed on the skin, and good application properties. In addition, a desired **hardness** of the **gel** or **stick** can be achieved. Moreover, a desired feature of the composition utilizing the polyamide **gelling** agent is that the composition is reversible; that is, the composition can be melted and re-cast in molds, without change. . . chlorohydrate and aluminum-zirconium tetrachlorohydrate; Gly; and even when incorporating such conventional active antiperspirant materials there can be provided a clear antiperspirant **stick** or **gel** composition. Furthermore, the polyamide **gelling** agent has good stability in the composition (in particular, has better stability than dibenzylidene monosorbitol acetal **gelling** agent, in antiperspirant compositions containing acidic antiperspirant metal salts). In addition, the composition can leave a decreased residue on the skin, particularly as compared with conventional antiperspirant **sticks** utilizing a **waxy** hardener.

SUMM . . . composition, the composition can also be an emollient composition, a sunscreen composition, etc. As to the various types of cosmetic **sticks**, and active materials incorporated therein, attention is directed to U.S. Pat. No. 4,322,400 to Yuhas, the contents of which are. . .

SUMM As indicated previously, a desired feature of the present invention is that a clear, or transparent, antiperspirant **stick** or **gel** composition (e.g., antiperspirant **stick** or **gel** composition), and that a clear deodorant **stick** or **gel** composition, can be provided. The term clear or transparent (that is, clarity), according to the present invention, is intended to connote its usual dictionary definition; thus, a clear antiperspirant **stick** allows ready viewing of objects behind it. By contrast, a

translucent antiperspirant **stick**, although allowing light to pass through, causes the light to be so scattered that it will be impossible to see clearly objects behind the translucent **stick**

- SUMM Within the context of this invention, a **stick** or **gel** (e.g., an antiperspirant **stick** or **gel**) is deemed to be transparent or clear if the maximum transmittance of light of any wavelength in the range 400 to 800 nm through a sample 1 cm thick is at least 35%, preferably at least 50%. The **stick** or **gel** is deemed translucent if the maximum transmittance of such light through the sample is between 2% and less than 35%. A **stick** or **gel** is deemed opaque if the maximum transmittance of light is less than 2%. The transmittance can be measured by placing. . .
- SUMM The present invention contemplates a **gel** or **stick** composition, for reducing body malodor, using polyamide as the **gelling** agent in a cosmetically acceptable solvent from which the polyamide can solidify and form a **gelled** composition. The composition also includes active deodorant and/or antiperspirant ingredients, in a sufficient amount so as to have an effect. . .
- SUMM The polyamide **gellant** will be further described in the following. Polyamides, under the generic name of nylon, are widely used as molding and extrusion compounds. Generally, these polyamides are thermoplastic **polymers**. Nylon plastics formed from hexamethylenediamine and adipic acid were first commercialized in 1941.
- SUMM Polyamides are **polymers** that contain recurring amide groups as integral parts of the main **polymer** chains. If the **polymers** are formed by the condensation of diamines and dibasic acids, they are called AABB types, and can be represented by. . . aliphatic polyamides is the use of numbers that signify the number of carbon atoms in the respective monomers. For AABB **polymers**, two numbers are used; the first gives the number of carbon atoms separating the nitrogen atoms of the diamines, and. . .
- SUMM . . . with (2) relatively high molecular weight polybasic acids or esters, including dibasic acids or esters, which are obtained from thermal **polymerization** of a diene acid or ester, such as linoleic acid (for example, linoleates from soy bean, cotton seed or corn. . . group, but other mono- or polybasic fractions may be present. These mono- or polybasic acids may be a product of the **polymerization** of unsaturated vegetable oil acids or esters, or they can be deliberately added to the dimer acids, to modify the nature of the resulting **polymer**. The physical properties of polyamides of this type are determined to a large extent by the identity of the dimer. . .
- SUMM Examples of commercial polyamides which can be used as the polyamide **gelling** agent in the composition of the present invention are "Versamid" 1655 (by Henkel Corporation, CAS #68915-56-0), "Versamid" 744 (by Henkel. . . CAS #68650-50-0) and "Versamid" 930 (by Henkel Corporation, CAS #32131-17-2). Other commercial polyamides which can be used as the polyamide **gelling** agent include "Uni-Rez" 2658, "Uni-Rez" 2970, "Uni-Rez" 262 1, "Uni-Rez" 2613 "Uni-Rez" 2624, "Uni-Rez" 2665, "Uni-Rez" 1554, "Uni-Rez" 2623 "Uni-Rez",. . .
- SUMM The foregoing polyamides are based on fatty acids. However, polyamide **gelling** agents for the present invention are not limited to those based on fatty acids. Illustratively, another class of polyamides that can be used to form **gel** or **stick** compositions according to the present invention are the "Elvamides" by DuPont, which are nylon multipolymer resins. These resins are water-white, transparent, soluble in alcohol/water or glycol solvents, and have a tendency to **gel** at high concentrations. For example, the resin is soluble in a 70/30 ethanol/water solution, and will **gel** in this solution for concentrations around 15% by weight resin.
- SUMM Although we do not wish to be limited by any particular theory of

gelation mechanism, we believe that **gelation** occurs in systems whose polyamide concentration exceeds a certain concentration (which will vary with solvent system, and which may, in. . . the concentration at which molecular overlap is achieved) at temperatures below the melting point of the polyamide resin. If each **polymer** chain, on the average, is involved in at least two different crystallites, a macroscopic 3-dimensional network is established, and the system acquires the dimensional stability of a solid. This **gel** structure is not permanent, as discussed previously.

SUMM As indicated previously, the polyamide is included in the composition in a sufficient amount such that the **gelling** agent as a whole **gels** and solidifies the composition to form a solid having a **hardness** of a **gel** or **stick**. Generally, lesser amounts of polyamide, without further **gelling** agents, will provide a **gel** composition, while increased amounts of the polyamide (or including co-**gellants** with the polyamide) can provide **stick** compositions. Illustratively, the polyamide is included in the composition in an amount of 2-40% by weight, of the total weight. . . .

SUMM . . . not limited to nonionic compounds, but can include blends (e.g., synergistic blends) with cationic or anionic surfactants which can provide **emulsion** stability, cosmetic application and skin feel properties.

SUMM Various optional ingredients which can be incorporated in the composition of the present invention, including auxiliary solidifying or **gelling** agents and coupling agents, have previously been discussed. The degree of freedom in incorporating optional ingredients is increased, where a. . . .

SUMM . . . can be made by mixing the various components at an elevated temperature and then cooling in order to form the **gelled** (solidified) composition (as a **gel** or **stick**). Desirably, any volatile components (such as fragrances) are added to the mixture at a relatively late stage of the mixing, so as to limit volatilization of the component. Generally, the solvent and polyamide **gelling** agent are mixed and heated so as to fully dissolve the polyamide in the solvent (illustrative temperatures of the heating. . . fragrance then being added. Thereafter, the resulting composition is poured into canisters (e.g., dispensing packages) and solidified, as with conventional **stick** and **gel** compositions.

SUMM The compositions according to the present invention are used in the same manner as conventional **gel** or **stick** compositions, dispensed from, for example, dispensing canisters. For example, the **gel** or **stick**, exposed out of a dispensing package, is rubbed on skin, so as to deposit the active material (e.g., active deodorant. . . so as to deposit the active antiperspirant material on the skin in the axillary regions. As set forth previously, the **gel** or **stick** according to the present invention has good pay-off properties, so as to provide good depositing of the active antiperspirant material. . . .

DETD This formulation results in a transparent, firm, stable solid **stick** suitable for use in a commercial antiperspirant **stick**.

DETD This example illustrates the use of aluminum chlorohydrate as an alternate active ingredient, to provide a transparent firm **gel**.

DETD The following formula provides an opaque solid **gel**, that exhibits a tack-free feel on the skin.

DETD This example illustrates the use of a glycol-based solvent system for a polyamide **gellant**. The formulation of this example is the following:

DETD The **stick** produced by the above formulation was translucent; however, the **stick** can be made clear by replacing all of the

silicone materials, in Part II, with hexylene glycol, dipropylene glycol or. . .

DETD The following formulation represents a clear antiperspirant **stick**. The following shows the function of each of the various components of the formulation in the composition.

DETD

Ingredient	% by weight	Function
<hr/>		
Part I		
Oleyl Alcohol	20.00	Solvent
"Versamid" 930	20.00	Gellant
Part II		
PEG-10 Polyglyceryl-2 Laurate	2.00	Emulsifier
Part III		
Aluminum-Zirconium Tetrachloro-	33.30	Active
hydrex Glycine-PG Complex		
("Rezal" 36 GPG (36% PG Soln))		
Dipropylene Glycol	13.60	Co-solvent
Phenyl Dimethicone. . .		

DETD . . . maintaining the temperature above 130° F. The resulting mixture was then poured into canisters at 125°-130° F., and allowed to **gel**. The resulting composition had a melting point of 61° C.

DETD The following formulation is a clear antiperspirant **stick** composition using only glycols for the solvent system.

DETD . . . then added while maintaining the temperature at 150° F. The resulting mixture was then poured into canisters, and allowed to **gel**, providing a clear antiperspirant **stick**.

DETD The following formulations show translucent to clear antiperspirant **sticks** containing polyamide **gellants** and solubilized active. The amounts are in weight percent.

DETD The following formulations show antiperspirant **sticks** containing solid (powder) active which leave no visual residue. The amounts shown are in weight percent.

DETD . . . XI

<hr/>		
C.sub.12 -C.sub.15 Alkyl Lactate	37.5	19.2
(Ceraphyl 41)		
Cyclomethicone	15.0	11.4
(Dow Corning Fluid 345)		
Octadecene Dimethyl Methyl Octadecyl	15.0	--
Siloxane (Dow Corning 2503		
Cosmetic Wax)		
"Uni-Rez" 2931	7.5	11.4
Aluminum-Zirconium Tetrachlorohydrate	25.0	--
(AZP 701/Superfine (Reheis))		
Aluminum Chlorohydrex PG Complex	--	23.5
(Rehydrol II (powder; Reheis))		
Oleth-10	--	18.5
Water	--	16.0

DETD The following formulation is an opaque to slightly translucent antiperspirant **stick** which has improved aesthetic properties. The amounts shown are in weight percent.

DETD This formulation shows a clear deodorant **stick** using a

polyamide **gelling** agent:

DETD This formulation shows a translucent **stick**:

DETD This formulation shows an opaque paste (soft **gel**):

DETD The following formulation shows a clear **gel**:

DETD Thus, according to the present invention a **stick** or **gel** composition having good pay-off and application properties, and having good structural integrity, can be achieved. Furthermore, clear compositions, including clear antiperspirant **gel** or **stick** compositions, can be achieved. In addition, the compositions according to the present invention are stable, the **gellant** being stable even in the presence of an antiperspirant metal salt, such as conventional acidic antiperspirant metal salts like aluminum. . . .

CLM What is claimed is:

. . . active deodorant materials and active antiperspirant materials, in an amount effective to reduce body malodor; (2) a polyamide as a **gelling** agent for the composition, the **gelling** agent being included in a sufficient amount such that the composition is a solid composition; and (3) a solvent system for the polyamide, in an amount such that the polyamide can be dissolved therein, and the polyamide can be **gelled** therefrom upon cooling, the composition being a **gel** or **stick**.

19. An antiperspirant composition according to claim 7, wherein the composition is a **stick** composition.

20. An antiperspirant composition according to claim 7, wherein the composition is a **gel** composition.

28. An antiperspirant composition according to claim 5, consisting essentially of said active antiperspirant material, said **gelling** agent and said solvent system.

. . . 30. An antiperspirant composition according to claim 29, consisting essentially of said active antiperspirant material, said active deodorant materials, said **gelling** agent and said solvent system.

31. A composition according to claim 1, further including an additional **gelling** agent, provided in an amount, together with the polyamide, such that the composition is a **gel** composition or a **stick** composition.

45. A composition according to claim 44, wherein the polyamide based on dimerized fatty acids is a polyamide formed by condensation **polymerization** of dimerized fatty acids with difunctional amines.

46. A composition according to claim 1, wherein the composition is a **gel** system that forms the solid composition upon cooling, and can be brought to a fluid state by heating the solid. . . .

. . . 36, wherein the neutral polyamides have a molecular weight on the range of 1,000 to 30,000 daltons as measured by **gel** permeation chromatography.

. . . 49. A solid antiperspirant composition, comprising: (a) 2-40% by weight, of the total weight of the composition, of a polyamide **gelling** agent, which is a solid in the composition; (b) 10-95% by weight, of the total weight of the composition, of a solvent for the polyamide **gelling** agent; (c) 0-50% by weight, of the total weight of the composition, of a surface active agent to ensure rinsability. . . ingredient; and (e) 0-30% by weight, of the total

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weight of the composition, of water, wherein the composition is a
gel or stick.

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FILE 'USPATFULL' ENTERED AT 13:01:34 ON 06 FEB 2006

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 850 S L1/TI
L3 359814 S MICROEMULSION? OR EMULSION? OR ENCAPSUL?
L4 342 S L2 AND L3
L5 271258 S CELLULOSIC? OR CELLULOSE?
L6 110 S L4 AND L5
L7 56901 S OIL-IN-WATER?
L8 37 S L6 AND L7
L9 281680 S CREAM? OR SOFT SOLID? OR STICK?
L10 35 S L8 AND L9
L11 469837 S GEL?
L12 34 S L10 AND L11
L13 148590 S HARDNESS?
L14 9 S L12 AND L13
L15 787167 S POLYMER? OR WAX?
L16 9 S L14 AND L15
L17 1 S US5500209/PN
L18 1 S L16 AND L17

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L19 1 L17 AND L5

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L19 ANSWER 1 OF 1 USPATFULL on STN

PI US 5500209 19960319

SUMM . . . No. 4,863,721 to Beck, et al discloses a polar solvent-free
antiperspirant composition including specific amounts of at least one
particulate cellulose ether polymer, at least one active
antiperspirant material, and at least one anhydrous antiperspirant
carrier. This patent discloses that the. . .

SUMM . . . N.sup.1 -1,2-ethanediyl bis-9-octadecenamide); ethylene
distearamide (N,N.sup.1 -1,2-ethanediyl bis-9-stearamide); castor wax;
polyvinyl alcohols; paraffin waxes; particulate polyethylenes; fumed
silicas; carbowaxes; hydroxyethyl cellulose or hydroxypropyl
cellulose; polysaccharides such as guar gum; and other materials
known to those skilled in the art as gellants, can be incorporated. .

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L20 ANSWER 1 OF 1 USPATFULL on STN

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SUMM . . . Orr, and No. 4,937,069 to Shin, each of which disclose such
gels, including physical characteristics thereof such as viscosity and
hardness. The contents of each of these three U.S. patents are
incorporated herein by reference in their entirety.

SUMM . . . the composition, a gel is formed. At higher levels, or when

other gelling agents are included in the composition, the **hardness** of the composition is increased, so as to form a hard stick. It is within the present invention that the composition includes conventional gelling agents, in addition to the polyamide, so as to provide a composition with increased **hardness**.

SUMM In the cosmetic field, systems are sometimes classified as gels or sticks, depending on their viscosity or **hardness** alone; typically, it is understood that gels are soft, deformable products while sticks are strictly free-standing solids. For example, by. . .

SUMM . . . of the active material when the composition is rubbed on the skin, and good application properties. In addition, a desired **hardness** of the gel or stick can be achieved. Moreover, a desired feature of the composition utilizing the polyamide gelling agent. . .

SUMM . . . amount such that the gelling agent as a whole gels and solidifies the composition to form a solid having a **hardness** of a gel or stick. Generally, lesser amounts of polyamide, without further gelling agents, will provide a gel composition, while. . .

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 L13 148590 S HARDNESS?
 L14 9 S L12 AND L13
 L15 787167 S POLYMER? OR WAX?
 L16 9 S L14 AND L15
 L17 1 S US5500209/PN
 L18 1 S L16 AND L17
 L19 1 S L17 AND L5
 L20 1 S L17 AND L13

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L21 ANSWER 1 OF 1 USPATFULL on STN

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SUMM . . . active ingredient in a suitable solvent, a suspension of the active ingredient in a non-solvent, or a multiphasic dispersion or **emulsion** in which a solution of the active ingredient is dispersed in some continuous phase or in which the solubilized active. . .

SUMM Illustratively, U.S. Pat. No. 3,341,465 to Kaufman, et al discloses a clear, transparent oil-in-water gel **emulsion** for cosmetic purposes. The **emulsion** disclosed therein includes water, an ester of a lower monohydric alcohol and a fatty acid, a higher fatty

acid alkylolamide,. . . having at least one free hydroxyl group and at least one esterified fatty acid group. This patent discloses that the **emulsions** can include various cosmetic adjuvants including bactericides such as hexachlorophene.

SUMM . . . have been dispensed from containers having the appearance of a stick) have been marketed, consisting of viscous, high internal phase **emulsions**. These gels exhibit some advantages over the aforementioned acetal-based clear sticks, in that the selection of formulation ingredients is less restricted (for example, water can be used), and often tack can be reduced significantly. But these **emulsions** still suffer from the disadvantages of feeling cool to the skin upon application, and often require the use of ethanol,. . .

SUMM . . . at least one of the polyanionic polyamide compounds can be used in the form of, e.g., aqueous or aqueous-alcoholic solutions, **emulsions**, sticks, powders, creams, aerosols, gels or solid cakes.

SUMM . . . phase; or can be dissolved in a second, discontinuous phase which is emulsified in the continuous phase (forming a solid **emulsion** as the composition for reducing body malodor).

SUMM Preferably, when the composition according to the present invention is in the form of a solid **emulsion**, the composition includes a surfactant, to ensure that the discontinuous phase stays dispersed upon cooling the composition until the polyamide. . .

SUMM . . . not limited to nonionic compounds, but can include blends (e.g., synergistic blends) with cationic or anionic surfactants which can provide **emulsion** stability, cosmetic application and skin feel properties.

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 L19 1 S L17 AND L5
 L20 1 S L17 AND L13
 L21 1 S L17 AND L3

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L22 13308 MICROEMULSION?

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L23 ANSWER 1 OF 1 USPATFULL on STN

ACCESSION NUMBER: 97:47082 USPATFULL

TITLE: **Antiperspirant deodorant**
compositions

INVENTOR(S): Panitch, Maximo M., Skokie, IL, United States

PATENT ASSIGNEE(S): Helene Curtis, Inc., Chicago, IL, United States (U.S.
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5635165		19970603
APPLICATION INFO.:	US 1995-534277		19950927 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Dodson, Shelley A.		
LEGAL REPRESENTATIVE:	Marshall, O'Toole, Gerstein, Murray & Borun		
NUMBER OF CLAIMS:	45		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1179		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Gel** antiperspirant compositions comprising an antiperspirant compound, a **gelling** agent selected from the group consisting of a sterol and a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, a carrier comprising a silicone or a hydrocarbon, and, optionally, a fatty alcohol, a fatty ester, water, or a mixture thereof, are disclosed. Aerosol antiperspirant compositions also are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L17 1 S US5500209/PN
L18 1 S L16 AND L17
L19 1 S L17 AND L5
L20 1 S L17 AND L13
L21 1 S L17 AND L3
L22 13308 S MICROEMULSION?

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L23 1 S L22 AND L16
L24 1 S US5635165/PN

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L25 1 L16 AND L24

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L25 ANSWER 1 OF 1 USPATFULL on STN

TI **Antiperspirant deodorant** compositions

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AB **Gel** antiperspirant compositions comprising an antiperspirant compound, a **gelling** agent selected from the group consisting of a sterol and a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, . . .

SUMM The present invention is directed to anti-perspirant spirant compositions comprising an antiperspirant compound pound, like an astringent salt; a **gelling** agent selected from the group consisting of a sterol, like lanosterol, a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic. . . a hydrocarbon; and optionally, water, a fatty alcohol, a fatty ester, or a mixture thereof. The antiperspirant compositions are viscous, **gelled** compositions that are opaque and phase stable; effectively deliver the antiperspirant compound to the skin; are nonwhitening and nonstaining to. . .

SUMM Antiperspirant compositions are available in a variety of forms, such as aerosol suspensions; pump sprays; roll-on powders; **emulsions**, lotions, or suspensions; and solid **gels**, **waxes**, **creams**, or suspensions. Antiperspirant compositions traditionally have been prepared as either **oil-in-water emulsions** or water-in-oil **emulsions**. Therefore, antiperspirant compositions of any form typically have a milky or opaque appearance, but some antiperspirant compositions are transparent. Antiperspirant compositions conventionally are manufactured by complex methods. Antiperspirant compositions prepared as **emulsions** often feel wet or oily when applied to the skin, and often remain tacky after the carrier of the composition evaporates. In addition, many **emulsion**-type antiperspirant compositions leave a white, staining residue on contacted skin or clothing.

SUMM Roll-on and **gelled emulsion**-type antiperspirant compositions are used by rubbing an area of the body, such as the underarm, to apply a layer of the composition to the skin, and thereby reduce odor and/or perspiration. Roll-on and **gel** antiperspirant compositions preferably possess the esthetic properties of smoothness, nonoiliness and nontackiness. **Gelled** antiperspirant compositions also require a sufficient firmness to maintain its shape. Another highly desirable, but hard to achieve, esthetic property. . .

SUMM . . . viscosity to adhere to the skin, resists dripping off or running down the skin, and yet is not tacky or **sticky**. A **gel** antiperspirant composition is difficult to formulate and manufacture because the composition requires sufficient firmness to withstand rubbing across the skin. . .

SUMM A **gel** antiperspirant composition which has esthetic and functional properties equal to or better than presently available antiperspirant compositions is highly desired by consumers. However, providing a commercially acceptable **gel** antiperspirant composition requires overcoming several formulation and manufacturing problems.

SUMM **Gelled** antiperspirant compositions incorporate a **gelling** agent to build up the solid structure, or firmness, of the composition. Solid antiperspirant compositions typically are based on solid. . .

- SUMM Solid antiperspirant compositions are divided into three main classes, i.e., compressed powder **sticks**, **gel sticks** and **wax sticks**. Each of these classes has advantages, but each class also has particular disadvantages. Compressed powder **sticks** for example are frequently brittle and hard, and leave a cosmetically unacceptable powdery residue after application. Frequently, **wax**-based products are cosmetically unacceptable because of such factors as **hardness**, greasiness and tackiness. The visually observable white residue remaining after application also is esthetically undesirable.
- SUMM **Gel**-type solid antiperspirant compositions have several advantages over both compressed powder **sticks** and **wax sticks**. For example, the **gel** antiperspirant compositions leave less residue or dust on the skin. The **gel** antiperspirant compositions also glide easily over the skin surface resulting in an easy and comfortable application of the composition.
- SUMM However, the preparation of antiperspirant compositions in the form of an effective and stable **gel** is difficult. For example, a critical ingredient in **gel** antiperspirant compositions is the **gelling** agent. Many prior **gel** antiperspirant compositions contain **gelled** hydroalcoholic solutions including a **gelling** agent, such as sodium stearate, to form the **gel**. However, common **gelling** agents cannot be used in the presence of acidic antiperspirant compounds because of an interaction between the **gelling** agent, which is alkaline, and the antiperspirant compound.
- SUMM Prior **gel** antiperspirant compositions also typically were divided into three main classes. One of these classes is the optically clear **gelled emulsion** compositions. These compositions include a water phase and an oil phase. The oil phase is suspended in the water phase by using a sufficient amount of an appropriate emulsifier or emulsifiers. The **emulsions** conventionally contained **waxes**, **silicones**, **clays** and **emollients**. The optically clear **gelled emulsion** compositions are illustrated in U.S. Pat. Nos. 4,673,570, 4,268,499, 4,278,655, and 4,350,605; EP 0 450 597; and in "Deodorant and. . .
- SUMM The optically clear **gelled emulsion** compositions often exhibit the disadvantages of composition instability during storage; the development of a hazy or milky appearance during storage; a stringy, tacky, oily consistency and other undesirable esthetics. In additions, the **emulsion gel** compositions often leave a visible residue, in the form of a white layer, on the skin or clothing. Another disadvantage of optically clear **gelled emulsion** compositions is the complex method of preparing an optically clear **gelled emulsion** composition. The method traditionally requires high shear rates during mixing, high processing temperatures, and a series of cooling and heating. . . .
- SUMM A second class of **gel** antiperspirant compositions is antiperspirant compositions thickened with 1,3:2,4-dibenzylidene-sorbitol (DBS) or DBS derivatives. Such transparent antiperspirant compositions are disclosed in U.S. . . .
- SUMM **Gelled** antiperspirant compositions thickened with DBS or DBS-type compounds have a major disadvantage in that the compositions are unstable in the. . . .
- SUMM The third class of **gel** antiperspirant compositions is the acid-base complex **gels**. These antiperspirant compositions are prepared by interacting the active antiperspirant compound with a carboxylic acid salt. Acid-based complex **gels** are disclosed, for example, in U.S. Pat. Nos. 3,255,082 and 2,876,163; and in European Publication No. 0 448 278.
- SUMM . . . by the salt, thereby reducing the efficacy of the antiperspirant compound and, accordingly, the antiperspirant

composition. In addition, the resulting **gels** are very brittle, tacky, and/or possess other undesirable esthetic properties, such as in the compositions disclosed in U.S. Pat. No. 3,255,082, which are **emulsions** or sols.

SUMM The problems associated with **gel** antiperspirants can be partially overcome by formulating a roll-on antiperspirant. Roll-on antiperspirants typically are viscous liquids to semi-solids. However, roll-on. . .

SUMM Investigators have continually sought to provide **gel** antiperspirant compositions having both long-term stability and sufficient esthetic and functional properties for consumer acceptance. These esthetic and functional properties. . . skin and clothing, and the ability to effectively deliver the antiperspirant compound to the skin without providing a tacky or **sticky** feeling. The present invention is directed to providing **gel** antiperspirant compositions exhibiting these consumer-acceptable esthetic and functional properties wherein the composition utilizes a nonaqueous carrier and a **gelling** agent selected from a sterol and a starch hydrolyzate ester of a C.sub.8 to C.sub.22 carboxylic acid. Surprisingly, the compositions. . .

SUMM **Gelled**, nonaqueous liquids are known. For example, nonaqueous liquids **gelled** by the addition of dextrin fatty acid esters are disclosed in Japanese Patent Publications 3,006,283; 1,203,379; 64-207223, 62-121764, 62-143970, and 62-143971. The use of a **cellulose** fatty acid ester to **gel** a nonaqueous liquid was disclosed in Japanese Patent Publication 63-360955. A **gelling** agent for nonaqueous solvent using a combination of a dextrin fatty acid ester and an n-acylaminoacid was disclosed in Japanese. . .

SUMM Saito et al. U.S. Pat. No. 3,989,087 and WO93/23008 disclose **gelling** a nonaqueous system containing aluminum salts using a combination of an n-acylamino-acid amide and 12-hydroxystearic acid. However, high processing temperatures were required to achieve **gelling**, the product was hard to wash off the skin, and the product lacked consumer-acceptable efficacy. Similar products incorporating polyoxyethylene ether. . .

SUMM EP 0,440,387 discloses **gelling** a C.sub.1 to C.sub.4 alcohol-based antiperspirant composition with a combination of a hydrophobically-treated clay and sucrose esters of tallow fatty. . .

SUMM Other patents directed either to **gelling** agents for nonaqueous compositions or to antiperspirant compositions include UK Patent Application GB 2,253,347, which discloses antiperspirant compositions **gelled** by a compound having polycyclic aromatic and steroidal groups linked by an ester linkage; Tanner U.S. Pat. No. 5,019,375; Orr. . . WO 93/08840. Mori et al. U.S. Pat. No. 5,013,715 discloses the use of a fatty acid ester of saccharose to **gel** a nonaqueous liquid. Mori et al. U.S. Pat. No. 4,780,145 discloses the use of a dextrin fatty acid ester to **gel** nonaqueous liquids. Berndt U.S. Pat. No. 5,338,535 discloses a talc-free body powder including a starch powder and a volatile silicone.

SUMM The present invention relates to **gel** antiperspirant compositions having improved efficacy and esthetics, and to methods of using the antiperspirant compositions. The present invention also relates to aerosol antiperspirant compositions. More particularly, the present invention is directed to **gel** antiperspirant compositions comprising an antiperspirant compound; a **gelling** agent selected from the group consisting of a sterol, a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, and. . .

SUMM As used here and hereafter, the term "**gel**" is defined as a composition that retains its shape in the free form (i.e., is unsupported) at room temperature (i.e.,. . .

SUMM In particular, the **gel** antiperspirant compositions comprise:

- SUMM (b) about 2% to about 15% by weight of **gelling** agent selected from the group consisting of a sterol, a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, and. . .
- SUMM The **gel** antiperspirant compositions are free of a particulate filler, like talc, and, therefore, are nonstaining and nonwhitening to skin and clothing. Particulate fillers typically are added to a **gel** antiperspirant composition to impart firmness to the compositions. Surprisingly, the present antiperspirant compositions have sufficient firmness for product efficacy and consumer esthetics in the absence of a particulate filler. The **gelled** compositions also effectively deliver the antiperspirant compound to the skin, and exhibit excellent esthetic and functional properties, including sensory properties, . . .
- SUMM In a preferred embodiment, the **gel** antiperspirant and deodorant composition comprises:
- SUMM (b) about 3% to about 12% by weight of a **gelling** agent selected from the group consisting of a sterol, a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid, and. . .
- SUMM In another embodiment, the **gel** antiperspirant compositions include 0% to about 30% by weight water, 0% to about 20% by weight fatty alcohol, 0% to. . .
- SUMM . . . admixed with a hydrocarbon propellant to provide an aerosol antiperspirant composition. The aerosol antiperspirant composition contains 1 part by weight **gel** antiperspirant composition and about 0.5 to about 3 parts by weight of the hydrocarbon propellant.
- SUMM . . . or preventing malodors associated with human perspiration, especially underarm odor. The method comprises topically applying an effective amount of a **gel** antiperspirant composition of the present invention to the skin of a human.
- SUMM A **gel** antiperspirant composition of the present invention comprises an antiperspirant compound, a **gelling** agent, a carrier, and, optionally, water, a fatty alcohol, a fatty ester, or a mixture thereof. In particular, the **gel** antiperspirant compositions comprise:
- SUMM (b) about 2% to about 15% by weight of a **gelling** agent; and
- SUMM . . . 10% to about 90% by weight of a carrier comprising a silicone, a hydrocarbon, or a mixture thereof. Optionally, the **gelled** composition contains 0% to about 30% by weight water; 0% to about 20% by weight fatty alcohol, 0% to about 70% by weight fatty ester, or a mixture thereof. The **gel** antiperspirant compositions are free of particulate fillers, like talc.
- SUMM The **gel** antiperspirant compositions are stable to phase separation and exhibit exceptional esthetic and functional properties. The antiperspirant compositions are firm, nonstringy. . .
- SUMM The present **gel** antiperspirant compositions incorporate any of the antiperspirant compounds known in the art, such as the astringent salts. The astringent salts. . .
- SUMM The antiperspirant and deodorant compound is present in the **gelled** antiperspirant composition in an amount of about 1% to about 40%, and preferably about 5% to about 35%, by weight. . .
- SUMM In addition to the antiperspirant compound, a **gel** antiperspirant composition of the present invention also includes about 2% to about 15%, and preferably about 3% to about 12%, by weight of the composition, of a **gelling** agent. To achieve the full advantage of the present invention, the **gelling** agent is present in an amount of about 3.5% to about 10%, by weight of the composition.
- SUMM The **gelling** agent is selected from the group consisting of a starch hydrolyzate ester of a fatty carboxylic acid having about 8 to about 22 carbon atoms (i.e., a C.sub.8 -C.sub.22 carboxylic acid), a sterol, and mixtures thereof. The **gelling** agent acts as a viscosity modifier or thickener to provide an efficacious and consumer-acceptable firmness, and does not contribute to. . .

- SUMM A **gel** antiperspirant composition including an antiperspirant compound, like an aluminum-zirconium chloride glycine complex, and a **gelling** agent is a viscous or **gelled** composition. The viscosity and **gel** consistency of the composition can be adjusted by the addition of an optional fatty acid ester and/or an optional fatty. . . .
- SUMM In one embodiment, the **gelling** agent comprises a starch hydrolyzate ester of a C.sub.8 -C.sub.22 carboxylic acid. These **gelling** agents are prepared by reacting a starch hydrolyzate with a fatty acid having about 8 to about 22 carbon atoms,. . . .
- SUMM acid ester can be any sugar or carbohydrate ester of a fatty C.sub.8 -C.sub.22 carboxylic acid that is capable of **gelling** a silicone or a hydrocarbon. Other starch hydrolyzates, in addition to sucrose and dextrin, that can be used to esterify. . . . monosaccharides, like glucose, fructose, and mannose; disaccharides, like sucrose, maltose, and lactose; trisaccharides, like maltotriose, raffinose, and melezitose; polysaccharides, like **cellulose** lose and chitin; and cyclodextrins, like α , β and α -cyclodextrin.
- SUMM In addition to the starch hydrolyzate fatty acid esters, a sterol can be used as the **gelling** agent of the present antiperspirant compositions. In particular, sterols are isocyclic compounds having a tetracyclic cyclopentenophenanthrene skeleton (III): ##STR4## The. . . .
- SUMM alcohol, batyl alcohol, and squalene are some of the compounds found in unsaponifiables. Unsaponifiables that can be used as the **gelling** agent of the present antiperspirant compositions include, but are not limited to, avocado oil unsaponifiables, olive oil unsaponifiables, rapeseed oil. . . .
- SUMM The **gel** antiperspirant compositions also contain about 10% to about 90%, and preferably about 15% to about 75%, by weight of the. . . .
- SUMM has a viscosity of 0.65 cs (centistokes), is highly volatile, is nongreasy, and does not leave the skin with a **sticky** or tacky feeling. Other linear polydimethylsiloxanes, such as decamethyltetrasiloxane, having a boiling point of about 195° C. at atmospheric pressure,. . . .
- SUMM as a hydrocarbon including about 10 carbon atoms to about 26 carbon atoms, has sufficient volatility to avoid leaving a **sticky** or tacky feeling on the skin. A volatile hydrocarbon, therefore, provides essentially the same benefits as the volatile silicone.
- SUMM South Plainfield, N.J. Other volatile hydrocarbons include isohexadecene, 1-decene dimer, and C.sub.13-14 isoparaffins. A volatile hydrocarbon is useful in the **gel** antiperspirant composition either alone, in combination with another volatile or nonvolatile hydrocarbon, or in combination with a volatile or nonvolatile. . . .
- SUMM In another embodiment, the **gel** antiperspirant composition contains a carrier comprising a nonvolatile silicone, like a polydimethylsiloxane compound. Preferred nonvolatile silicone compounds include linear and. . . .
- SUMM In addition to the essential ingredients, the present **gel** antiperspirant compositions also can include optional ingredients traditionally included in antiperspirant compositions. These optional ingredients include, but are not limited. . . .
- SUMM In accordance with an important feature of the present invention, the **gel** antiperspirant composition is free of surfactants and particulate fillers, like talc. The combination of antiperspirant compound, **gelling** agent, and carrier provides an antiperspirant composition having sufficient firmness to function as a **gel**, thereby obviating the presence of a particulate filler. The present antiperspirant compositions also are easily and effectively applied to the. . . .

- SUMM However, other optional ingredients can be added to the **gel** antiperspirant composition to improve the composition esthetics for greater consumer acceptance. These optional ingredients include water, a fatty alcohol, a . . .
- SUMM . . . a tacky feel on the skin. The addition of water to the composition leads to the formation of a water-in-oil **microemulsion**, which helps decrease the tacky skin feeling attributed to the water.
- SUMM Another optional ingredient included in the **gel** antiperspirant composition can be a fatty alcohol. The fatty alcohol is present in an amount of 0% to about 20%, . . .
- SUMM To demonstrate the **gel** antiperspirant compositions of the present invention, the following nonlimiting examples were prepared. An antiperspirant composition of the present invention is a **soft solid gel** that leaves no visually-observable, white residue on skin or clothing after application. The antiperspirant compositions also can include, or be. . .
- SUMM In general, an antiperspirant composition of the present invention is prepared by first dissolving the **gelling** agent in the carrier by heating an admixture of the **gelling** agent and carrier to about 85° C., then maintaining the admixture at 85° C., with agitation, until the mixture is. . .
- SUMM The antiperspirant compositions of the present invention are soft, opaque solid **sticks** having a penetrometer reading of about 5 to about 40, and preferably about 10 to about 20. The penetrometer reading. . . to the skin without drag. The antiperspirant compositions do not contain a particulate filler, like talc, or a solid inorganic **gelling** agent, like bentonite, and, therefore, do not leave an esthetically unacceptable white residue on skin or clothing.
- DETD . . . will be demonstrated in the following examples, the antiperspirant compositions were phase stable over the life of the product, were firm (**gel**), were easy to apply and effectively delivered the antiperspirant compound to the skin, and did not whiten the skin or. . .
- DETD The composition of Example 1 was an opaque (i.e., white), soft **gel** composition which spread easily on the skin and dried quickly, leaving behind an antiperspirant film. In storage stability tests, the. . .
- DETD . . . weight, are termed deodorants as opposed to antiperspirants. Deodorant compositions also can be made by incorporating a sufficient amount of **gelling** agent into the composition. An optional fatty alcohol or optional fatty acid ester also can be included to enhance composition esthetics. A sufficient amount of **gelling** agent, and, if desired optional fatty alcohol and/or fatty acid ester, in the composition provide a **gel** composition of desired consistency. The amount of **gelling** agent required to provide the desired composition consistency varies with the identity and the amount of carrier in the composition.
- DETD The composition of Example 2 was an opaque, **soft solid** having a slightly yellowish color. The composition was easily applied to the skin to effectively deliver the antiperspirant compound and. . .
- DETD The compositions of Examples 4-6 contained water, and were opaque, **soft solid gels** having good phase stability and an effective delivery of the antiperspirant composition upon application.
- DETD The compositions of Examples 12-14 were **soft solid gels** that were stable and performed well as antiperspirant compositions.
- DETD The composition of Example 15 was a soft **gel** composition that was stable at 80° F. and 120° F. for at least one month. The solid **gel** composition was sufficiently firm to perform as

an antiperspirant composition and effectively delivered the antiperspirant compound to the skin without leaving a tacky or sticky feeling on the skin and without leaving a white residue on the skin or clothing.

DETD The compositions of Examples 16 and 17 were white, solid vanishing creams having a stability of at least one month at 80° F. and at 120° F. The compositions of Examples 16. . .

DETD As stated above, one part by weight of the gel antiperspirant compositions can be admixed with about 0.5 to about 3 parts by weight of a hydrocarbon propellant to provide. . .

CLM What is claimed is:

1. A gel antiperspirant composition comprising: (a) about 1% to about 40% by weight of an antiperspirant compound, wherein the antiperspirant compound is. . . astringent salt comprising aluminum, zirconium, zinc, or a mixture thereof; (b) about 2% to about 15% by weight of a gelling agent consisting essentially of a starch hydrolyzate ester of a carboxylic acid having about 8 to about 22 carbon atoms;. . .

. . . is selected from the group consisting of an α -cyclodextrin, β -cyclodextrin, δ -cyclodextrin, glucose, fructose, mannose, sucrose, maltose, lactose, maltotriose, raffinose, melezitose, cellulose, chitin, and mixtures thereof.

34. A gel antiperspirant composition comprising: (a) about 5% to about 35% by weight of an aluminum halide, an aluminum hydroxyhalide, a zirconyl. . . zirconyl hydroxyhalide, an aluminum zirconium glycinate, or a mixture thereof; (b) about 3% to about 12% by weight of a gelling agent selected from the group consisting of a sucrose distearate, dextrin palmitate, and mixtures thereof; and (c) about 15% to. . .

36. An aerosol antiperspirant composition comprising: (a) 1 part by weight of the gel antiperspirant composition of claim 1, and (b) about 0.5 to about 3 parts by weight of a hydrocarbon propellant.

. . . astringent salt comprising aluminum, zirconium, zinc, or a mixture thereof; (b) about 2% to about 15% by weight of a gelling agent consisting essentially of a starch hydrolyzate ester of a carboxylic acid having about 8 to about 22 carbon atoms;. . .

39. A gel antiperspirant composition comprising: (a) about 1% to about 40% by weight of an antiperspirant compound, wherein the antiperspirant compound is. . . astringent salt comprising aluminum, zirconium, zinc, or a mixture thereof; (b) about 2% to about 15% by weight of a gelling agent selected from the group consisting of a sterol; and (c) about 10% to about 90% by weight of a. . .

42. A gel antiperspirant composition comprising: (a) about 5% to about 35% by weight of an aluminum halide, an aluminum hydroxyhalide, a zirconyl. . . zirconyl hydroxyhalide, an aluminum zirconium glycinate, or a mixture thereof; (b) about 3% to about 12% by weight of a gelling agent selected from the group consisting of dihydrolanosterol, lanosterol, avocado oil unsaponifiables, and mixtures thereof; and (c) about 15% to. . .

44. An aerosol antiperspirant composition comprising: (a) 1 part by weight of the gel antiperspirant composition of claim 43, and (b) about 0.5 to about 3 parts by weight of a hydrocarbon propellant.

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(FILE 'HOME' ENTERED AT 13:01:24 ON 06 FEB 2006)

FILE 'USPATFULL' ENTERED AT 13:01:34 ON 06 FEB 2006

10/632,407

L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
L2 850 S L1/TI
L3 359814 S MICROEMULSION? OR EMULSION? OR ENCAPSUL?
L4 342 S L2 AND L3
L5 271258 S CELLULOSIC? OR CELLULOSE?
L6 110 S L4 AND L5
L7 56901 S OIL-IN-WATER?
L8 37 S L6 AND L7
L9 281680 S CREAM? OR SOFT SOLID? OR STICK?
L10 35 S L8 AND L9
L11 469837 S GEL?
L12 34 S L10 AND L11
L13 148590 S HARDNESS?
L14 9 S L12 AND L13
L15 787167 S POLYMER? OR WAX?
L16 9 S L14 AND L15
L17 1 S US5500209/PN
L18 1 S L16 AND L17
L19 1 S L17 AND L5
L20 1 S L17 AND L13
L21 1 S L17 AND L3
L22 13308 S MICROEMULSION?
L23 1 S L22 AND L16
L24 1 S US5635165/PN
L25 1 S L16 AND L24

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L26 1 L24 AND L15

=> d kwic

L26 ANSWER 1 OF 1 USPATFULL on STN

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SUMM . . . in a variety of forms, such as aerosol suspensions; pump sprays; roll-on powders; emulsions, lotions, or suspensions; and solid gels, **waxes**, creams, or suspensions. Antiperspirant compositions traditionally have been prepared as either oil-in-water emulsions or water-in-oil emulsions. Therefore, antiperspirant compositions of. . .

SUMM Solid antiperspirant compositions are divided into three main classes, i.e., compressed powder sticks, gel sticks and **wax** sticks. Each of these classes has advantages, but each class also has particular disadvantages. Compressed powder sticks for example are frequently brittle and hard, and leave a cosmetically unacceptable powdery residue after application. Frequently, **wax**-based products are cosmetically unacceptable because of such factors as hardness, greasiness and tackiness. The visually observable white residue remaining after. . .

SUMM Gel-type solid antiperspirant compositions have several advantages over both compressed powder sticks and **wax** sticks. For example, the gel antiperspirant compositions leave less residue or dust on the skin. The gel antiperspirant compositions also. . .

SUMM . . . suspended in the water phase by using a sufficient amount of an appropriate emulsifier or emulsifiers. The emulsions conventionally contained **waxes**, silicones, clays and emollients. The optically clear gelled emulsion compositions are illustrated in U.S. Pat. Nos. 4,673,570, 4,268,499, 4,278,655, and. . .

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L27 1 L24 AND L22

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=> d kwic

L27 ANSWER 1 OF 1 USPATFULL on STN
PI US 5635165 19970603 <--
SUMM . . . a tacky feel on the skin. The addition of water to the composition leads to the formation of a water-in-oil **microemulsion**, which helps decrease the tacky skin feeling attributed to the water.

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L1 11524 S ANTIPERSPIRANT? OR DEODORANT?
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L24 1 S US5635165/PN
L25 1 S L16 AND L24
L26 1 S L24 AND L15
L27 1 S L24 AND L22

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L28 1 L24 AND L13

=> d kwic

L28 ANSWER 1 OF 1 USPATFULL on STN
PI US 5635165 19970603 <--
SUMM . . . and leave a cosmetically unacceptable powdery residue after application. Frequently, wax-based products are cosmetically unacceptable because of such factors as **hardness**, greasiness and tackiness. The visually observable white residue remaining after application also is esthetically undesirable.